

THE INSTITUTION OF ENGINEERS, AUSTRALIA
CANBERRA DIVISION

THE TREES OF MANUKA CIRCLE

An account of the sponsorship by The Institution of the planting, in 1926, of 96 trees in Canberra Avenue, Manuka, the identification of the engineers associated with that planting, and an examination and report on the condition of the trees surviving in 1995.

by

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SUMMARY

In 1926 The Institution of Engineers, Australia, was one of a dozen organisations (mainly national in coverage) that sponsored the planting of trees in Canberra Avenue, the result of a suggestion put forward by a member of the Associated Chambers of Commerce. The Institution sponsored some 96 trees, and on a visit to Canberra in August a dozen members, and some wives, planted a token 3 dozen trees in the names of past and present Councillors, of benefactors of The Institution, and of its several Divisions. This Report documents the results of the research undertaken, (in contemporary records), to determine the circumstances of the planting and biographical details of the names mentioned, and documents an assessment of those trees that remain in 1995 (about one third of the total).

1. INITIATION OF THE TREE PLANTING SCHEME

In the Melbourne *Argus* dated 31 October 1925 appeared a Letter to the Editor from W B Carmichael of Sydney;

With the object of creating a greater public interest in our National Capital, and at the same time, taking an interest in the beautifying of it, it occurred to me, on a recent visit there, that various societies and organisations might be glad to contribute to this by presenting trees or avenues of trees. This would create a keener interest in Canberra, and in later years would lend to the historical associations of the capital if such trees or avenues of trees are tabulated and dated. After consulting with and obtaining the cordial concurrence of Mr J H Butters, the chairman of the Federal Capital Commission, I interviewed a number of the public bodies in Australia, and took the matter up first of all with the Sydney Chamber of Commerce; and I am glad to say that the Associated Chambers of Commerce of the Commonwealth of Australia have thoroughly approved of the scheme and are presenting a suitable avenue to represent the Chambers of Commerce throughout Australia.

Carmichael goes on to mention 'public bodies' as varied as the United Commercial Travellers' Association of Australia, The Rotary Clubs of Sydney and Melbourne, The Highland Society of NSW, The Melbourne Amateur Regatta Association and the Canadian Trade Commissioner to Australia. He then quoted Butters [in a letter to Carmichael dated 8 September 1925] as explaining that it was already too late for satisfactory planting in 1925 but that;

I will get a route selected and during the coming summer prepared in readiness for planting. I will have all the tree positions marked, and the numbers in the various sections pegged out. I have a list available of the most suitable avenue trees, and I will make a suggestion for each section in order that, supposing, for instance, the Canadian Government plants a dozen maples, we have alongside them trees that will produce a good avenue effect. Except for the seedlings of trees actually shipped from other countries, I will—as soon as I get the list from the various institutions—have a number of small trees earmarked which can be purchased by the various bodies, and I will let you know what the trees will cost. As to the cost, we should normally be prepared to make the trees available free, but I am inclined to think that we should spoil the effectiveness of the whole scheme unless the various associations actually buy the trees they are to plant. I will therefore make some charge, if only a nominal one.

Carmichael ended his letter by saying;

The object in now making this matter public throughout Australia is that any society, association or institution may take the matter of making similar presentations up direct with the Federal Capital Commission in Canberra.

The complete text of Carmichael's letter is given in Appendix 1. An identical letter appeared, on the same day, in the *Brisbane Courier* and the *Adelaide Advertiser*; an article on the subject, quoting from Carmichael's letter to the Editor, was published, on the same day, in the *Sydney Morning Herald*.

William Bremner Carmichael was a principal of Carmichael & Co., Paper Merchants, of 115 Pitt Street, Sydney; he was a Scot, and a prominent member of the Associated Chambers of Commerce (now the Australian Chamber of Commerce).

2. INVOLVEMENT OF THE INSTITUTION OF ENGINEERS

The 24th Meeting of the Council of The Institution of Engineers (11 November 1925) minuted;

5(e) Tree planting at Canberra. Mr Butters drew attention to the facilities that had been provided to enable various organisations, societies etc. to plant avenues of trees at Canberra, each tree being accompanied by a plate stating the name of the donor, and submitted that The Institution should take advantage of this arrangement. The cost of each tree planted was approximately 5/- and the cost of each name plate £3-£4. The suggestion was favourably received, and the matter referred for attention and action by the Executive Committee, with a view to inviting subscriptions from members of The Institution towards the proposal.

At the 88th meeting of the Executive Committee (Sydney 15.12.25):

The Secretary was instructed to communicate with Division Committees regarding the appeal to members of the respective Divisions, and to arrange for the inclusion, also, of an appeal in the next issue of the Quarterly Bulletin. It was agreed desirable to limit the individual subscriptions to 2/6.

After traversing the background history of the scheme, the Quarterly Bulletin article (issue dated January 1926) argued that The Institution should participate because Butters was a Member of The Institution.

Another very good reason is that The Institution, being one of the most important bodies of its kind in Australia, should not be behind in this interesting and important proposition.

It may be mentioned that it will not be an expensive matter to play our part. It is suggested that The Institution should donate and plant three trees for each of The Institution's Divisions, making a total of 21 trees in all. The cost of the trees delivered at the planting site will be 5/- each, so that the total cost of the trees will be £5.5.0.

The suggestion has also been made that the participation of the various Associations in the planting of the avenue should be commemorated in a permanent way by means of one or more bronze tablets. It has not yet been decided whether to adopt one tablet to include a record of each Association, and mount this suitably at the entrance to the avenue, or whether each Association should provide its own tablet (to be made to a uniform design with appropriate wording to suit each case), to be fixed in a position close to the actual trees planted by each respective body.

It is intended by the Federal Capital Commission to consult the wishes of the bodies concerned as soon as the list is completed but in the meantime it has indicated that the cost of a small bronze tablet would probably be in the vicinity of £20, but that the single and larger plate, ie the first above-mentioned, to contain the names of all authorities, would probably cost each individual Association less.

It is felt by the Council, however, that the matter of cost will not be serious so far as members of The Institution are concerned and it is proposed, therefore, that the sum of £25 should be raised to cover the cost of the trees and a single tablet, and it is suggested that this amount should be allocated in the following manner:

<i>Adelaide Division to be responsible for</i>	<i>£ 2.00.0</i>
<i>Brisbane Division to be responsible for</i>	<i>£ 2.00.0</i>
<i>Melbourne Division to be responsible for</i>	<i>£ 6.10.0</i>
<i>Newcastle Division to be responsible for</i>	<i>£ 2.00.0</i>
<i>Perth Divison to be responsible for</i>	<i>£ 1.10.0</i>
<i>Sydney Division to be responsible for</i>	<i>£ 10.00.0</i>
<i>Tasmania Division to be responsible for</i>	<i>£ 1.00.0</i>

It has been agreed that the subscriptions of individual members should be limited to 2/6.

Should it be found that the cost involved in the tablet is less than anticipated, it is proposed to increase the number of trees to absorb the full subscription. It may be mentioned that it is essential the completed scheme should be developed by the Federal Capital Commission by the 1st of May next, as the planting must be commenced in the month of June and completed before the end of July.

When the Secretary reported progress to the next Council Meeting (No. 25 held on 15.2.26), it minuted;

The action taken was generally approved but the feeling was expressed that The Institution might appropriately be responsible for a larger donation and the matter was referred to the Executive Committee for the necessary attention and action.

It was also agreed desirable that The Institution should present trees of Australian origin if such trees should be suitable.

The next Executive Committee meeting (No. 90 held on 16.3.26) decided that Butters should be consulted; this was done and a quota of 100 trees agreed. At the next Executive meeting (20.4.26) the 'responsibilities' of Divisions for the scheme were increased as follows:-

Adelaide	£ 3.15.0
Brisbane	£ 3.15.0
Melbourne	£ 11.10.0
Newcastle	£ 3.15.0
Perth	£ 2.10.0
Sydney	£ 18.00.0
Tasmania	£ 1.15.0
	£ 45.00.0

This action was reported to the 27th Council Meeting (6 July 1926) which 'noted that an amount of approximately £12 had yet to be subscribed—but it was not anticipated that any difficulty would be experienced in the raising of this amount'.

3. THE INSTITUTION PLANTS ITS TREES

The ultimate outcome of this activity is recorded in The Institution's Quarterly Bulletin dated October 1926;

CANBERRA

Tree Planting Ceremony by Members of The Institution

On Sunday evening, 1st August last, a party consisting of members of The Institution and ladies left Sydney by train en route for Canberra, the site of the Federal Capital of the Commonwealth. A special car was allotted to The Institution and Queanbeyan was reached in the early hours of Monday morning, 2nd August. Here the car was shunted on to a siding thus avoiding the necessity of disturbing members from their sleeping berths until about 7 am. So, under most favourable conditions, commenced a day which will live long in the memory of those so fortunate to participate in the visit, both on account of its historical significance, and on account of the pleasures and interests associated with the proceedings.

Early morning tea was served, then the party proceeded by motor charabanc to CANBERRA, a distance of some nine miles. The Hotel Canberra was made the headquarters of the party which consisted of the following:

Mr G.A. Julius (Past President) and Mrs Julius; Mr W.J. Newbigin (Chairman of the Executive Committee) and Mrs Newbigin; Mr J.P. Tivey (Chairman of Sydney Division) and Mrs Tivey; Mr H.A. Curtis (Vice-Chairman of Tasmania Division) and Mrs Curtis; Mr M.C. Coates (Chairman of Melbourne Division); Mr W. Poole and Mrs Poole; Mr A. Maughan and Mrs Maughan; Mr H.W. Flashman and Mrs Flashman; Mr R.J. Boyd; Mr F.P. Kneeshaw; Mrs Neale and Mrs Vout (Sydney); Mr H.G. Trenchard (Hon. Treasurer of Newcastle Division) and Mr W. Humble (Newcastle); Mr I.V. Doust (Queanbeyan); and Mr E.S. Maclean (Secretary of The Institution).

There follows a brief history of Canberra, the role of the Federal Capital Commission and the progress being made in the construction of the city.

After breakfast the party was taken in hand by W.E. Potts MC, BE, AMIE Aust, in the unavoidable absence of Butters, 'who had been called to Melbourne'. The Party was transported by 'a fleet of motor cars' to the Section of the Avenue in which the Institution trees were to be planted. The avenue is described as '200 ft wide with a plantation running down the centre 70 ft wide'. Potts, in a 'brief speech' on the site, traversed the background story of Carmichael, the offer to 'established Institutions in Australia', and the proposals about brass plaques.

Members of the party then individually planted trees of various species, the first tree being planted by Mrs G.A. Julius. Mr C. Weston, Superintendent of Parks and Gardens, and Mr A.E. Bruce, Assistant Superintendent supervised the planting.

Only one section of the trees donated was planted owing to the limited time available, but arrangements were made for the subsequent planting of trees in the names of past and present Councillors of The Institution, and of the several Divisions of the Institution.

A copy of Fig. 1 of the present paper is included in the report, as are a number of photographs of the planting activities of which two are reproduced here as Fig. 2 and 3. All of the plantings undertaken by the visiting party were in Section D of Fig. 1; it seems likely, but cannot be confirmed, that all of the original trees in Section D, 39 in number, were planted by the visitors. The party then were taken on a tour of Canberra, the Cotter, Mt Stromlo, St John's Church, and the plant nursery. The party then dined at the Hotel Canberra, returning to Queanbeyan by charabanc, and joined the Cooma Mail train by special sleeping car back to Sydney.

The planting is also recorded in The Institution's Annual Report for the year 1926, where the item concludes with the following paragraph;

A plan, showing the site of the Avenue, the position of each tree planted and particulars of the name of the person associated with each tree, was subsequently prepared by the Commission and forwarded to the Institution. This plan, by direction of Council, has now been framed and will serve as a permanent record of this historic function. Trees were planted by members of the party, and in the names of past and present Councillors, of benefactors of the Institution, and of the several Divisions of the Institution.

The decision to frame the plan of the plantings prepared by the Commission and presented to The Institution is referred to in the Minutes of the 28th Meeting of Council (9.11.26). The framed plan hung on the walls of The Institution's Headquarters at Science House in Sydney until the present building was constructed in Canberra. When the Headquarters moved to Canberra in 1976 the plan also moved. Shortly after its arrival in Canberra it was handed to Canberra Division, the walls of whose office it still adorns (in 1995). It is reproduced in Fig.1, scaled down by a factor of about 5; the names in the tables are illegible, so they are repeated in Table 1. (In Appendix 1 is a brief Institution-oriented CV of those to whom the trees are ascribed.)

4. TREE ASSESSMENT JUNE 1995

Section D

This Section of the commemorative planting by The Institution is in the median strip between Empire Circuit and Manuka Circle. It was originally planted with three rows of thirteen trees per row numbered respectively from 10–22, 23–35 and 36–48. Species in the outer rows were *Eucalyptus macarthuri*, *Callitris calcarata*, now *C. endlicheri*, and *Grevillea robusta*. The species in the centre row was *Sterculia diversifolia*, now known as *Brachychiton populneus*.

These are all Australian native species which have been planted with reasonable success elsewhere in Canberra. The reason for replanting the Section with *Eucalyptus bicostata* and *Prunus cerasifera* is unclear. The *E. bicostata* are estimated to be about 20 years old while the *Prunus* are younger, possibly less than 15 years suggesting the replanting occurred in at least two stages.

Section E—Indicative Plan Figure 6

This Section is between Manuka Circle, at the southern extension of Telopea Park West, and Furneaux Street.

In 1926, Ducane Street extended to Manuka Circle and there was a small island at the junction of Canberra Avenue and Manuka Circle. At some later stage, the island was joined with Section E; however the trees in the former island are not part of The Institution planting.

Section E consisted of 21 trees in three rows. The trees were numbered 8–14, 15–21 and 22–28. In June 1995 ten of the original trees remained and there were two replacements.

Species planted were Atlas Cedar, *Cedrus atlantica*, Chinese Juniper, *Juniperus chinensis*, Incense Cedar, *Libocedrus decurrens* now *Calocedrus decurrens*, and Silky Oak, *Grevillea robusta*.

In 1995 the surviving trees of the original planting are one Incense Cedar, six Atlas Cedars, and three Silky Oaks. There is one small replacement Silky Oak in position number 18 and one replacement Atlas Cedar position number 10. Height, trunk diameter, crown spread and condition of each of the surviving trees and the replacements are given in Table 2. None of the original three junipers has survived. Chinese Juniper is not now considered to be a successful species in Canberra.

The low survival rate of Incense Cedar is surprising as there are some good specimens of early plantings of this species in other parts of Canberra; however these are generally on better sites. The survival of Silky Oak is typical for this species in Canberra as it is on the extreme end of its range for frost tolerance. The species is raised from seed and shows variability in growth characteristics typical of a seedling population. There has been no serious attempt to select the most frost tolerant specimens as seed parents. The replacement Silky Oak is very poor.

One of the Atlas Cedars, number 12, has a large scar at its base presumably where it has been hit by a vehicle leaving the curved section of Manuka Circle (Fig. 9).

Section F—Indicative Plan Figure 11

Section F, which is between Furneaux Street and Flinders Way, was originally planted with 15 trees in three rows of five trees each. Species planted were Roman Cypress, *Cupressus sempervirens fastigiata*, now *Cupressus sempervirens* 'Stricta', Chinese Juniper, *Juniperus chinensis*, and Pin Oak, *Quercus palustris*. Only the five Pin Oaks in the centre row remain. There is no satisfactory explanation for the absence of the Roman Cypress as this

species is extremely hardy and there are healthy old specimens growing on the verge of Manuka Circle.

Heights, trunk diameters and crown spreads of the Pin Oaks and an assessment of their condition are given in Table 3. The crowns intertwine and the group is a significant visual feature of Manuka particularly in late autumn when the foliage is bright orange red and in spring when the soft green new growth appears.

Section G—Indicative Plan Figure 12

This section between Flinders Way and Captain Cook Crescent, originally contained 21 trees in three rows of seven. In late 1995 there were twelve of the original trees remaining and two replacements. One tree, number 8, was alive in June 1995 but had died by December that year.

The trees at the Captain Cook Crescent end are healthier than those near Flinders Way possibly because they are on lower ground which receives more run-off. Tree No. 21 is a fine specimen of *Grevillea robusta*, probably the best for its age in Canberra (Fig. 13). It is a species which is generally frost-tender in Canberra and the vigor of this specimen even on the lowest and therefore coldest part of the Section suggests it should be used as a seed parent for planting stock elsewhere.

There are two replacement trees of Silky Oak; however they are in poor condition and should be replaced with stock raised from Tree No. 21.

Some of the Atlas Cedars exhibit the multi-stemmed nature occurring in many specimens of this species planted in the 1920s. They were presumably raised from a parent tree with this distinctive characteristic (Fig. 13 and 14). This characteristic is not desirable in trees close to intersections where visibility may be reduced by low branching.

The two Incense Cedar trees remaining in this Section are good examples of the species although shorter in height than specimens of a comparable age grown under better watered conditions on deeper soils elsewhere in Canberra.

Summary of Tree Assessment

The Institution of Engineers plantings included both native and exotic, and both evergreen and deciduous tree species. They were all planted elsewhere in Canberra and no evidence has been found to suggest the species were chosen for any particular symbolic reason linked to The Institution or its members.

Thomas Weston, Superintendent Parks and Gardens, attended the planting ceremony and appears in Figure 2. Undoubtedly he would have approved if not personally selected the species to be planted. The pattern of alternating species in rows is consistent with plantings Weston initiated elsewhere.

It needs to be recognised that many species were still being evaluated under local conditions in 1926. Weston may have recognised this in the wide choice of species and relatively close spacing which would achieve a landscape effect even if some trees failed.

One of the species *Juniperus chinensis*, did not perform well in Canberra and is no longer planted. *Callitris calcarata*, now *C. endlicheri*, *Sterculia diversifolia*, now *Brachychiton populneus*, and *Grevillea robusta* are species of variable performance in Canberra and are now seldom planted. *Eucalyptus Macarthuri*, now *E. macarthuri*, is a fast-growing tree which is often planted. It occurs naturally in a restricted area near Camden, NSW, with higher rainfall and deeper soils and is relatively short-lived under Canberra conditions.

The trees remaining from the initial planting will be approaching the end of their safe and effective life as landscape specimens over the next 10–20 years. Replacement of some failures in the initial plantings and some losses through vehicle damage has occurred over the past few years.

Where replacements have been made the same species as planted initially have been used. This pattern should continue with the exception of *Juniperus chinensis* which is not suitable for Canberra conditions. Given the difficult site conditions, special attention is needed to provide the best opportunity for the replacement trees to grow well and achieve a landscape effect in as short a time as possible.

In the case of Silky Oak, *Grevillea robusta*, effort should be made to raise plants from seed collected from specimens which have performed well under local conditions. Where Atlas Cedar, *Cedrus atlantica*, is replanted, seedlings should be raised from single-stemmed rather than multi-stemmed parent stock.

5. OTHER COMMEMORATIVE PLANTINGS IN CANBERRA AVENUE

In the Third Annual Report of the Federal Capital Commission to Parliament, for the year ending 30 June 1927, Butters devoted one page to the topic 'Presentation and Memorial Tree Planting'. After briefly describing the scheme, and giving credit to Carmichael ('of the Highland Society of New South Wales') for its initiation, Butters goes on;

For the purpose of this presentation planting scheme the Commission reserved the whole of the plantation area on the Avenue which will be the main route from Canberra to Queanbeyan. The length of this avenue afforded a great number of tree positions and thus permitted a large number of bodies to be represented.

Although associations connected with town planning and building took a lively interest in the tree planting scheme, the movement was not by any means confined to such bodies, the interest being more widely representative of the people of Australia. The following institutions have planted trees up to the present:

- The Highland Society of New South Wales*
- The Town Planning Association of New South Wales*
- The Millions Club of New South Wales*
- The Institution of Engineers of Australia*
- The Associated Chambers of Commerce*
- The New South Wales Golf Council*
- The Australian Corporation of Public Accountants*
- The Press Association of New Zealand*
- The Rotary Clubs of various Capital Cities*
- The English Speaking Union*

The Young Australia League
The Commercial Travellers' Association of Australia

Only brief research has been undertaken (at December 1995) to identify organisations and trees referred to in Butters' Report, with the following result (the Sections referred to are those of Fig. 1):

The Highland Society of New South Wales

A Rowan tree was imported from Scotland and planted at the far NW end of Canberra Avenue—on either 14 May 1926 or 11 September 1926. No trace exists in 1995.

The Town Planning Association of New South Wales

A party visited Canberra on 21 August 1926 and undertook some planting in Sections A and B; the Association apparently sponsored 58 trees.

The Millions Club of New South Wales

Club members planted in Section C on 11 September 1926—perhaps 23 of 39 sponsored trees.

The Associated Chambers of Commerce

Reference has been found to the sponsoring of 200 trees in Sections H, I, J, K and L, of which perhaps 15 were planted by a party of members on 11 September 1926.

The New South Wales Golf Council

Records suggest the Council sponsored 18 trees planted in Section L on 29 September 1926—but not planted by members.

The Australian Corporation of Public Accountants

Apparently members sponsored 120 trees, and planted 7 of them in Sections M and N on 18 August 1926.

The Press Association of New Zealand

Apparently 14 sponsored trees were planted in Section P on 29 September 1926.

The Rotary Clubs

Records suggest Sydney Rotarians sponsored 120 trees planted in Sections Q, R and S on 27 August 1926, Melbourne Rotarians sponsored 147 trees planted in Sections T, U, V and W on 8 September 1926, and Rotarians from Ballarat, Bendigo and Geelong sponsored 23 trees planted in Section S on the same day.

The English Speaking Union

There is some evidence that two poplars were planted in Section S by a visiting party on 8 September 1926.

The Young Australia League

Contemporary records suggest that a visiting group from Western Australia planted a tree in front of the Provisional Parliament House, not in Canberra Avenue, on 24 January 1927.

The Commercial Travellers' Association of Australia

Records suggest the Association sponsored either 104 or 134 trees of which a visiting party planted 5 trees on 15 August 1927. However plans and photographs accompanying the reports identify the site of the plantings as Brisbane Avenue, and not Canberra Avenue,

which would be consistent with the indication that by late 1927 all Sections in Canberra Avenue were already full.

6. THE NAMING OF CANBERRA AVENUE

It needs to be remembered that, certainly in the area we are now considering, there have been no major departures from W.B. Griffin's town-planning layout of Canberra. Thus it is easy to identify the avenue in which the plantings took place. (The Capitol Circuit of Fig. 1—a dual carriage way—is now two separate roads, Capital Circle and State Circle; Manuka Circle remains—but not as a dual carriage way; Eastlake Circle is only a roundabout.) In Griffin's plans the avenue is labelled Wellington Avenue (because even as late as 1913, when Griffin won the competition, it was still expected New Zealand might join the Commonwealth). By the end of 1927 the debate about a revision of the nomenclature for the streets and places of Canberra was crystallising, and it may well be that there was uncertainty in 1926 when the plan was drawn up. Butters in his Annual Report refers to it as 'the Avenue which will be the main route from Canberra to Queanbeyan'. The Institution refers to it variously as 'the Avenue', 'the presentation Avenue' and 'the presentation avenue'. But nowhere is it described as 'Presentation Avenue'—except on Fig. 1

Today it is named Canberra Avenue.

7. CONCLUDING REMARKS

Several 'impressions' have been gained from the work done on The Institution trees; they are described as 'impressions' because insufficient exhaustive work has been done to confirm the following as fact, but they are considered worth recording.

(a) Commemorative Brass Plaques

There are frequent references in the early literature to plaques of two sorts, one at each tree associating it with a person belonging to the organisation that sponsored each group of trees, and another associating the organisation with that group. Both concepts were consistent with Carmichael's original idea of providing an opportunity for 'societies and organisations', and their members, to display a continuing 'interest in our National Capital', and were frequently endorsed by Butters, who was continually reminding organisations of the need to provide the Commission with a list of the names of their members who were to be recorded on the tree plaques.

No reference has so far been found, either in The Institution's records or those of the Commission to any aspect of the implementation of the plaqueing proposal—either to the wording on the plaques, to their detailed design, manufacture or acquisition, or to their installation. Nor has any evidence been found, in the field, of the present or past existence of plaques. Similar remarks can be made about the other organisations listed in Section 5 above who were responsible for sponsoring plantings in Canberra Avenue.

(b) Public Interest in Canberra

One of Carmichael's stated objects in proposing the tree planting scheme was 'to create a greater public interest in our National Capital'. From 'scratch', a letter to the Editor of some national daily newspapers, and an unknown volume of personal canvassing, participating interest was generated in 12 organisations listed in Section 5 above—7 national, 4 unique to NSW and one in New Zealand. Members of these organisations sponsored some 800+ trees, and perhaps 100 of their members made a visit to Canberra to undertake at least token plantings.

Although no examination of the 'impression' has been made—by, for example, a comparison of contemporary press writings of say 1912 (when Canberra was chosen as the site) and 1926 (when the plantings were made)—the 'impression' has been gained that acceptance of Canberra as the National Capital had 'arrived'.

(c) Other Surviving Trees in Canberra Avenue

In Section 5 above there are listed some 700+ trees (in addition to those sponsored by The Institution) planted in Sections A–C and H–W of Canberra Avenue in 1926. The superficial impression is gained that there do not exist, in 1995, 700+ trees aged about 70 years in the above Sections of Canberra Avenue, but to date no work has been done, by the authors, comparable with that recorded here about The Institution trees, to validate that impression.

(d) Mildenhall Photographs

In the Mildenhall Collection at Australian Archives in Mitchell there are 10 photographs of The Institution visitors who planted trees on 2 August 1926, viz. Nos 2209, 2210, and 2213–2220 inclusive. Nos 2209, 2210, 2214 and 2216 are clearly photographs of actual plantings, and the other 6 are of the visits to the Cotter, Plant Nursery etc. referred to in the Quarterly Bulletin report extracted in Section 3 above. Mildenhall No's 2214 and 2210 are reproduced in this report as Figs 2 and 3 respectively; 2214 is also reproduced in the Bulletin report, where all of the persons is identified; those identifications are reproduced in Fig. 2, and from them the identifications of Fig. 3 are deduced.

BIBLIOGRAPHY

The following sources were searched to obtain the information contained in this report:

A The Circumstances of the Plantings

1. Records of The Institution of Engineers
 - Minute Books
 - Quarterly Bulletin
 - Transactions
 - Journal
2. Records of The Federal Capital Commission and of the Superintendent Parks and Gardens in Australian Archives, Mitchell ACT.

B The Persons

1. Australian Dictionary of Biography 1788–1939: MUP (ADB)

A Biographical Register (1788–1939) (Notes from the Name Index of the ADB) by H J Gibbney & Ann G Smith: ANU 1987 (BR)
2. Publications of The Institution: (Transaction and Journal)
3. *Who's Who in Australia*
4. Miscellaneous

Queensland: *Eminent Queensland Engineers*, ed. R L Whitmore, Queensland Division, IEA: 1984

Newcastle: *Shaping the Hunter*, ed. John Armstrong, Newcastle Division, IEA: 1983

Western Australia: *The Cyclopedia of Western Australia*, ed J S Battye: 1913

Contemporary Newspapers

Relevant House Magazines

APPENDIX 1

Complete text of Carmichael's letter as published in
Melbourne Argus on 31 October 1925

(Identical complete text also published in *Brisbane Courier* and
Adelaide Advertiser on same date)

BEAUTIFICATION OF CANBERRA

TO THE EDITOR OF THE ARGUS

Sir,—I would esteem it a favour if you would give me space to make public a scheme for the beautifying of our Federal Capital, Canberra. With the object of creating a greater public interest in our National Capital, and at the same time taking an interest in the beautifying of it, it occurred to me, on a recent visit there, that various societies and organisations might be glad to contribute to this by presenting trees or avenues of trees. This would create a keener interest in Canberra, and in later years would lend to the historical associations of the capital if such gifts of trees or avenues of trees are tabulated and dated. After consulting with and obtaining the cordial concurrence of Mr J. H. Butters, the chairman of the Federal Capital Commission, I interviewed a number of the public bodies in Australia, and took the matter up first of all with the Sydney Chamber of Commerce; and I am glad to say that the Associated Chambers of Commerce of the Commonwealth of Australia have thoroughly approved of the scheme, and are providing a suitable avenue to represent the Chambers of Commerce throughout Australia.

The United Commercial Travellers' Association of Australia Ltd has also interested itself in the matter, and the details are to be considered by their executive at an early date. The Rotary clubs of both Sydney and Melbourne have taken the matter up with enthusiasm, and they intend also to make a presentation of trees. On behalf of the Government of Canada, Mr D. H. Ross, Canadian Trade Commissioner to Australia, anticipates presenting a small avenue of characteristic maple trees from our sister Dominion. The Highland Society of New South Wales has given a tree—a Rowan—which is being brought out from Scotland with the Scottish soil around it. The Melbourne Amateur Regatta Association (Australian Henley) has presented a tree, and the various rowing associations throughout Australia (six in number) have been approached with the object of giving six trees, representing the six State rowing associations: The Victorian, New South Wales, and Queensland rowing associations have notified their approval, and no doubt the others will follow suit.

The chairman of the Federal Capital Commission has written to me, under date September 8, that it is too late for the planting season this year, and that he is arranging to have everything ready for a planting program in the later autumn. In the chairman's letter the following plan is outlined:—"I will get a route selected, and during the coming summer prepared in readiness for planting. I will have the tree positions marked and the numbers in the various sections pegged out. I have a list available of the most suitable avenue trees, and I will make a suggestion for each section in order that, supposing, for instance, the Canadian Government plants a dozen maples, we shall have alongside them trees which will produce a good avenue effect. Except for the seedlings or trees actually shipped from other countries, I will—as soon as I get the list from the various

institutions—have a number of small trees earmarked which can be purchased by the various bodies, and I will let you know what the trees will cost. As to the cost, we should normally be quite prepared to make the trees available free, but I am inclined to think that we should spoil the effectiveness of the whole scheme unless the various associations actually buy the tree they are to plant. I will therefore make some change if only a nominal one."

Other institutions have been communicated with, and there is no doubt that other public bodies will welcome the opportunity of assisting in the beautifying of our Federal Capital. The object in now making this matter public throughout Australia is that any society, association, or institution may take the matter of making similar presentations up direct with the Federal Capital Commission at Canberra, and I would suggest that this should be done immediately so that the authorities at Canberra would know the number of trees that will be presented, and arrange the avenues accordingly. To give ample time to do the necessary preparatory work I would suggest that those wishing to join in this scheme should notify the Federal Capital Commission not later than December 31. There can be no better way of beautifying a city than by the planting of suitable trees, and Canberra can within a few years be made a credit to this country and a city of which all Australians will be justly proud.—I am, &c.

W. B. CARMICHAEL
115 Pitt street, Sydney.

APPENDIX 2

IDENTIFICATION OF PERSONS WHOSE NAMES ARE ASSOCIATED WITH PLANTINGS

LEGEND

Name (life span)

[Tree Number; name as recorded on Fig. 1;

(RJB = R J Boyd
MCC = M C Coates
HAC = H A Curtis
GAJ = G A Julius
FPK = F P Kneeshaw
ESM = E S Maclean
A M = A Maughan
W J N = W J Newbiggin
WP = W Poole
JPT = J P Tivey
HGT = H G Trenchard)]

- F = Founding member of IEA, Founding Society Membership
- (EANSW = Engineering Association of NSW
- EA of A = Electrical Association of Australia
- ILGE = Institute of Local Government Engineers of Australia
- MUES = Melbourne University Engineering Society
- NEINSW = Northern Engineering Institute of NSW
- QIE = Queensland Institute of Engineers
- SAIE = South Australian Institute of Engineers
- SUES = Sydney University Engineering Society
- TIE = Tasmanian Institution of Engineers
- WAIE = Western Australian Institution of Engineers)

date of joining IEA; ultimate grade of IEA membership

(AM = Associate Member - now Member
M = Member - now Fellow),

date of achieving that grade; Divisional membership, membership of Divisional Committee, office holder in Division; Council membership, office holder on Council; representation on Founding Council

- Awards
- Experience
- References

(ADB = Australian Dictionary of Biography
BR = Biographical Register
J = Journal of IEA
T = Transactions of IEA
WWA = Who's Who in Australia
W = Whitmore - Emminent Queensland Engineers
A = Armstrong - Shaping the Hunter)

ANDREW, James (1870 - 1946)

[F 11; J Andrew per JPT]

- F, WAIE, 22.12.19; M, 1922; Perth, Cttee 1921 - 36, Chmn 1926, Treas 1921 - 25; Cr 1925 - 27
- 1906 - 1940 Eng and Mgr Perth Gas Co (since 1912 Elec and Gas Dept, Perth City Ccl)
- West Aust'n 29.06.46

BAINTON, John Richard (1867 - 1924)

[G 23: Late J R Bainton]

- F, EA of A, 22.01.20; M, 1921; Sydney
- MIEE, MAMIEE; endowed J R Bainton prize
- Electrical engineer - Founded Standard Electric Elevator Co which became Standard Waygood Ltd, Introduced automatic telephone exchanges to NSW Railways
- ADB - 7.147; T - 1924.395

BARRACLOUGH, Sir (Samuel) Henry (Egerton) (1874 - 1958)

[E 8; S H E Barraclough per J P T]

- F, SUES, 30.08.20; Hon F, 1943; Sydney; Cr 1922 - 42, Pres 1935
- KBE (1920), VD; BE (Syd, 1892), MME (Cornell, 1894); PNR Medal (1939)
- PNR School of Eng, Univ Syd; 1897 - 1907 Ass Lect Mech Eng, 1908 - 14 Assoc Prof, 1915 - 45 Prof, 1924 - 33, 1936 - 41 Dean
- ADB - 7.184; J - 1958.381

BOWMAN, John (1867 - 1951)

[E 25; J Bowman per J P T]

- F, SAIE, 13.02.20; M, 1920; Adelaide, Cttee 1920 - 26; Cr 1922 - 1924
- 1919 - 27 Adelaide Tramways Trust (In 1927 retired to Katoomba, NSW)

BOYD, Robert James (1876 - 1953)

[D 43; Robt J Boyd]

- F, SUES, 17.12.19; M, 1920; Sydney, Cttee 1920 - 26; Cr 1921 - 38, Pres 1936
- ME (Syd); PNR Medal (1941)
- 1920 - 34 Principal Designing Eng, Metrop Rly Cons Sydney; 1934 - 37 Chief Designing Eng, Irrig, WS&S Dept Qld; 1938 Consultg Eng, Sydney
- J - 1954.29; WWA - 1950.105

BRADFIELD, John Job Crew (1867 - 1943)

[E 10; J J C Bradfield per J P T]

- F, SUES, 11.11.19; M, 1920; Sydney; Cr 1920 - 24, 1931; Rep SUES on Founding Council of IEA on 20.10.19
- CMG (1933), D Sc (Syd 1924), ME (Syd 1896) MICE; PNR Medal (1932)
- 1891 - 33 NSW PWD, Cataract & Burrinjuck Dams, Sydney City Railway, Sydney Harbour Bridge; Consultant for Story Bridge Brisbane
- ADB - 7.381; The Unreasonable Man by R Raxworthy, Hale and Iremonger, 1989

BRAIN, Orlando William (1866 - 1936)

[G 9; O W Brain per J P T]

- F, EA of A, 25.11.19; M, 1920; Sydney; Cr 1925
- PNR Medal (1926)
- Electrical Engineer; 1888 - 95 Crompton Elec Supply Co, Sydney; 1896 - 1924 NSW Govt Rlys; 1927 - 34 Commr NSW Govt Rlys
- BR - 1.78; J - 1936.361

BURROWS, Thomas Edward (1863 - 1940)

[G 26; T E Burrows per J P T]

- F, SUES, 17.12.19; M, 1920; Sydney; Cr 1921
- MICE
- (1913 +) Harbours Branch NSW PWD
- J - 1940.334, SMH - 7.02.1940

BUTTERS, Sir John (Henry) (1882 - 1969)

[D 40; J H Butters]

- F, TIE, 29.1.20; M, 1920; Tasmania, Chmn 1920; Canberra Chmn 1927; Cr 1920 - 30, Pres 1927
- MBE (1920), CMG (1923), Kt (1927)
- 1914 - 24 General Manager, Tasmanian Hydro Electric Commission; 1925 - 29 Chief Commissioner, Federal Capital Commission
- ADB - 7.512; J - 1969.N68

CARTER, Herbert Gordon (1885 - 1963)

[D 39; H G Carter per A M]

- F, EA of A, 25.11.19; M, 1920; Sydney, Cttee 1922 - 34; Cr 1924 - 37, Pres 1943
- DSO; BE (Syd 1908); MICE
- 1924 - 29, Chief Elec Eng PWD, Sydney; 1930 + Consulting Eng, Sydney
- ADB - 7.582; J - 1963.N61

CHAPMAN, Sir Robert (William) (1866 - 1942)

[D 23; Prof Chapman per M C Coates]

- F, SAIE, 9.12.19; Hon F, 1942; Adelaide, Cttee 1924 - 40, Chmn 1920; Cr 1920 - 27, Pres 1922; Rep SAIE on Founding Council of IEA on 20.10.19
- CMG (1927); Kt (1937); BCE (Melb, 1888), MA (Melb); PNR Medal (1928), R W Chapman Medal;
- Adelaide University; 1907 - 09 Prof Eng; 1910 - 19 Prof Maths; 1920 - 37 Prof Eng
- ADB - 7.613; J - 1942.101

COANE, Henry Edward (1877 - 1923)

[E11; The late H E Coane per J P T]

- F, VIE, 5.01.20; M, 1920; Melbourne, Cttee 1921 - 22; Cr 1921 - 23
- Surveyor and Civil Engineer, a Principal of firm of J M & H E Coane, Melbourne
- ADB - 8.35; T - 1923.273

COATES, Matthew Clavering (1872 - 1942)

[D44; M C Coates]

- F, EA of A, 19.1.20; M, 1925; Melbourne, Cttee 1922 - 27, Chmn 1926; Cr 1925 - 27, 1932-36
- Consulting Mech & Elec Eng, Melbourne

CROCKER, Claude Edward (1875 - 1929)

[D 27; C E Crocker per G A J]

- F, WAIE, 22.12.19; M, 1920; Perth, Cttee 1920 - 27, Chmn 1924; Cr 1920 - 28, Pres 1926
- GM Elec & Gas Depts, Perth City Ccl
- J - 1929.342

CURTIS, Henry Arthur (1882 - 1933)

[D45; Harry A Curtis]

- F, TIE, 29.01.20; AM, 1920; Tasmania, Cttee 1923 - 33, Chmn 1927
- AM AmIEE
- 1915 - 23 Tasmania Hydro Electricity Dept; 1924+ Chief Eng & Gen Mgr
- BR - 1.155; WWA - 1933.103

CURTIS, Agnes

[D11; Agnes Curtis]

Wife of H A Curtis

DARE, Henry Harvey (1867 - 1949)

[E9; H H Dare per J P T]

- F, SUES, 17.12.19; M, 1920; Sydney; Cr 1920; Rep SUES on Founding Council of IEA on 20.10.19
- ME (Syd 1888); MICE; PNR Medal (1930)
- 1889 - 1912, NSW PWD; 1913 - 34 NSW Water Conservation & Irrigation Commission
- WWA - 1947.270

DAVIES, Cecil Bertrand (1876 - 1961)

[F 15; C B Davies per J P T]

- F, TIE, 6.02.20; M, 1920; Tasmania, Cttee 1920 - 28, Chmn 1922; Cr 1922 - 26, 1929 - 34
- CBE (1941); BE (Hbt)
- Eng for Tramways, Hobart; MD Davies Bros, Hobart (publisher of Hobart Mercury)
- BR - 1.165; WWA - 1959.222

DOAK, Walter James (1874 - 1962)

[F 19; W J Doak per J P T]

- F, QIE, 17.12.19; M, 1920; Brisbane, Cttee 1920 - 39; Cr 1920, 1938 - 39
- BE (Syd); MICE
- 1895 - 1939, Department of Railways, Brisbane; 1939 - 43 Consulting Eng; 1943 - 50 Stanley River Works Bd; 1950 - 52 Brisbane City Council
- WWA - 1955.233

DOUST, Isaac Vernon (1886 - 1927)

[D 17; Vernon Doust]

- F, EA NSW, 1.12.19; AM, 1919; Sydney
- Private practice in Sydney, later a consulting Engineer in Queanbeyan
- T - 1927.485

EATON, John Henry Osborn (1869 - 1948)

[E 26; J H O Eaton per J P T]

- F SAIE, 9.12.19; M, 1920; Adelaide, Cttee 1920 - 27, Chmn 1922; Cr 1924 - 27, 1937 - 40
- ISO (1934), PNR Medal (1935)
- 1884 - 1935 SA Water Conservation Dept
- BR - 1.201; WWA - 1944.319

FLASHMAN, Horace West (1884 -)

- [D 16; H W Flashman]
- AM 14.08.24, Sydney
- Representative in Sydney of Westinghouse Co of USA; in 1935 left Institution from an address in New York

FLASHMAN, Lucy W

[D 33; Lucy W Flashman]

Wife of H W Flashman

GARDAM, Joseph Robert Woodruffe (1874 - 1948)

[F 12; J R Gardam per J P T]

- F, WAIE, 22.12.19; M, 1920; Perth, Cttee 1920 - 29; Cr 1921, 1927 - 28
- MIEE, M Am IEE
- 1919 - 47 Perth Representative of Noyes Bros

GIBSON, Alexander James (1876 - 1960)

[F 21; Alex J Gibson per J P T]

- F, SUES, 16.12.19; M, 1920; Sydney, Cttee 1920 - 22, Chmn 1922; Cr 1921 - 41, Pres 1932
- ME (Hon. Qld 1919); MICE; PNR Medal (1940)
- 1910 Foundation Prof Engg Univ Qld; 1919 Supt Construction, BHP Newcastle; 1922 joined consulting engg firm Julius, Poole and Gibson
- ADB - 8.651, J - 1961.N8

GILCHRIST, Eneas Fraser (1868 - 1946)

[E 17; E F Gilchrist per J P T]

- F, QIE, 28.11.19; M, 1920; Brisbane, Cttee 1920 - 32, Chmn 1922; Cr 1923, 1927 - 33
- BA, MCE (Melb)
- 1891 - 96 Consulting Eng, Vic; 1897 - 1917 Local Govt Eng, Vic; 1918 - 1937 City Eng, Brisbane City Ccl
- BR - 1.260; J - 1947.96

HALKYARD, Charles Cyril (1889 - 1959)

[F 13; C C Halkyard per J P T]

- F, TIE, 29.01.20; M, 1922; Tasmania, Cttee 1921 - 25, Chmn 1924; Cr 1925
- MCE (Melb); AMICE
- Tasmanian Hydro-Electric Commission 1912 - 13 Ass Eng, 1914 - 19 Eng Hydraulic Designs, 1920 - 25 Dep Ass Chief Eng; 1926 - 55 Chief Engineer, Humes Ltd Melb (Humeogeneous Pipes)
- The Hydro-Electric Power of Tasmania, 1925; Hume News, Dec 1959

HARGRAVE, Arthur Leslie (1879 - 1969)

[F 22; A L Hargrave per J P T]

- F, EA of A, 5.12.19; M, 1923; Melbourne, Cttee 1921 - 43, Chmn 1923; Cr 1923 - 43
- AMIEE
- Melbourne Elec Supply Co; 1930+ Chief Distribution Eng. SEC
- WWA - 1947.402

HARPER, Herbert Reah (1871 - 1956)

[F24; H R Harper per J P T]

- F, EA of A, 5.12.19; M, 1921; Melbourne, Cttee 1921 - 36, Chmn 1930; Cr 1931 - 37, Pres 1933
- PNR Medal (1938)
- Electrical Engineer, 1901 - 1918 Melbourne City Council; 1919 - 1936 Chief Eng SEC, Victoria
- ADB - 9.203; J - 1956.242

HARRICKS, Dudley Francis John (1889 - 1960)

[D 37; D F J Harricks per F P K]

- F, EA NSW, 11.11.19; M, 1920; Sydney, Cttee 1920 - 22, Chmn 1921; Cr 1920 - 36, Sec 1920, Pres 1929; As Pres EA NSW convened first meeting of engineering societies in Melbourne on 12.02.1918, from which IEA was founded; Rep EA NSW on Founding Council of IEA on 20.10.19
- PNR Medal (1937)
- 1905 - 1939 CSR Sydney, since 1918 Chief Engineer
- ADB - 9.208; J - 1960.N31

HAWKEN, Roger William Hercules (1878 - 1947)

[D 24; R W H Hawken per W P]

- F, QIE, 28.11.19; M, 1920; Brisbane, Cttee 1920 - 42, Chmn 1920; Cr 1920 - 46, Pres 1923; Rep QIE on Founding Council of IEA on 20.10.19;
- BA (Syd, 1902) MCE (Syd, 1918); MICE; PNR Medal (1931)
- 1919+ Prof of Engineering, Univ of QLD
- ADB - 9.230; J-1947.207; W - 34

HENSON, Joshua Binnington (1857 - 1930)

[F 17; J B Henson per J P T]

- F, NEINSW, 7.01.20; M, 1922; Newcastle, Cttee 1920 - 29; Cr 1926 - 30
- AMICE
- 1873 - 88, City Eng's Staff, Sydney; 1889 - 92, Ass Eng MWSS & DB; 1892 - 1925, Eng Hunter District WS & SB
- BR - 1.324; J - 1930.389; A - 111

HOUGHTON, Thomas Harry (1857 - 1924)

[G 12; Late T H Houghton per J P T]

- F, EA NSW, 25.11.19; M, 1920; Sydney, Cttee 1920 - 24; Cr 1921 - 23
- MICE, MIM
- Consulting Eng Sydney
- BR - 1.346; T - 1934.400

HUMBLE, William (1854 - 1934)

[D 15; W Humble]

- F, NEINSW, 2.07.20; AM, 1920; Newcastle, Cttee 1921 - 28
- FGS, MIMinE
- Mining Engineer; 1890 - 1919 Inspector of Collieries, NSW
- BR - 1.350; J - 1934.316

JENKINSON, Herbert Gordon (1886 - 1969)

[E 24; H G Jenkinson per J P T]

- F, SAIE, 9.12.19; M, 1920; Adelaide, Cttee 1921 - 29, Chmn 1924; Cr 1922 - 36, Pres 1934
- MCE (Melb), ME (Adel), MICE
- 1910 - 23 SA Reinforced Conc Co, Adel; 1924 - 33 Consulting Eng, SA; 1934 - 45 Mackay Harbour Board, Qld; 1946 - 64 Townsville Harbour Board, Qld
- J - 1969.N30; WWA - 1929.1096

JOBBS, George Gilbert (1878 - 1954)

[F 23; G G Jobbs per J P T]

- F, EA of A, 5.12.19; M, 1920; Melbourne, Cttee 1920; Cr 1920; Rep EA of A (Vic) on Founding Council of IEA on 20.10.19
- Electrical Engineer; 1900 - 26, Melbourne Elec Supply Co, 1927 - 49 SEC
- BR - 1.371; WWA 1950.378

JULIUS, Sir George (Alfred) (1873 - 1946)

[D 13, D 26; G A Julius]

- F, EA of A, 11.11.19; Hon F, 1943; Sydney; Cr 1920 - 39, Pres 1925; Rep EA of A (NSW) on Founding Council of IEA on 20.10.19
- KB (1929); D Sc (1940), B Sc (1896); M I Mech E; PNR Medal (1927)
- 1896 - 1907 WA Railways; 1907+ Consulting Engineer Sydney, 1914+ with W Poole, 1922+ Julius, Poole & Gibson; 1908 invented totalisator; 1926 - 45 Chairman CSIR
- ADB - 9.528; J - 1946.171

JULIUS, Eva Droughsia Odieuna

[D 48; Eva Julius]

Wife of G A Julius, daughter of C Y O'Connor (Kalgoorlie water supply)

JUST, John Stephens (1880 - 1962)

[E 14; J S Just per J P T]

- F, QIE, 8.12.19; M, 1920; Brisbane, Cttee 1920 - 37, Chmn 1921; Treas 1931 - 38; Cr 1920 - 37; Rep QIE on Founding Council of IEA on 20.10.19
- BE (Adel)
- Electrical Engineer; 1902 - 1915 Syd Mun Ccl; 1915 - 28 City Elec Light Co Brisbane; 1928+ Consulting Eng
- BR - 1.382; W - 40

KEMP, Sir John (Robert) (1883 - 1955)

[E 16; J R Kemp per J P T]

- F, MUES, 5.01.20; M, 1920; Brisbane; Cr 1924 - 34, Pres 1931
- KB (1951); PNR Medal (1942)
- Civil Engineer; 1912 - 1919, CRB Vic; 1920 - 1949, MRB QLD
- BR - 1.389; J - 1955.70; W - 42

KERNOT, Maurice Edwin (1852 - 1934)

[E 19; M E Kernot per J P T]

- F, MUES, 5.12.19; M, 1920; Melbourne, Cttee 1920 - 22, Chmn 1920; Cr 1923 - 28
- MICE; PNR Medal (1933), Kernot Medal (1928)
- 1874 - 1923 Victorian Railways, Chief Eng from 1907
- ADB - 9.573; J - 1936.277

KING, Christopher Watkins (1869 - 1926)

[F 18; Late C W King per J P T]

- F, SUES, 17.12.19; M, 1920; Newcastle; Cr 1921 - 24
- MICE
- Surveyor; 1889 - 1924; Water Supply & Sewerage Branch, PWD, Newcastle
- BR - 1.397; T - 1924.402; Surveying the Hunter, ed J Fryer, Inst of Surveyors 1980

KIRKPATRICK, Thomas Henry (1868 - 1944)

[G 11; T H Kirkpatrick per J P T]

- F, ILGE, 11.11.19; M, 1920; Sydney, Cttee 1920 - 21; Cr, 1920; Rep ILGE (NSW) on Founding Council of IEA on 20.10.19
- 1891 NSW PWD; Shire Engineer, Kuring-gai; Dec 1927 resigned from IEA

MARRIOTT, Edward West (1882 - 1929)

[D 38; E W Marriott per J P T]

- F, SUES, 17.12.19; M, 1920; Sydney, Cttee 1923 - 28, Treas 1924; Cr 1925 - 27, Treas 1925 - 27
- CSR Sydney

MAUGHAN, Allan (1884 - 1976)

[D29; A Maughan]

- F, EA of A, 25.11.19; M, 1923; Sydney, Cttee 1923 - 32, Chmn 1929; Cr 1928 - 30
- BE (Syd), ME (Cornell)
- (1906 - 10) electricity cons/supply companies in US; 1911+ MD of Gen Elec Co, Syd
- WWA - 1950.491

MAUGHAN, Brenda

[D 46; Brenda Maughan]

Wife of A Maughan

MILLEN, John Dunlop (1877 - 1941)

[D 25; J D Millen per H A C]

- F, TIE, 23.02.20; M, 1920; Tasmania, Cttee 1920 - 28; Cr 1920 - 39; Pres 1924
- 1904 - 1919 GM Mt Bischoff Tin Mining Co, mine at Waratah; 1919 - 38 Senator for Tasmania
- ADB - 10.503; WWA - 1938.362

MORISON, David Niven (1870 - 1942)

[D 21; D N Morison per J P T]

- F, NEI NSW, 1.01.20; M 1920; Newcastle, Cttee 1920 - 41, Chmn 1924; Cr 1920 - 40; Rep NEI NSW on Founding Council of IEA on 20.10.19
- A principal of Morison and Bearby Ltd of Carrington, NSW, MD from 1914
- A - 92+, 173

MORTON, Henry Edgar (1872 - 1952)

[E 20; H E Morton per J P T]

- J 28.4.22; M, 1922; Melbourne, Cttee 1923 - 27, Chmn 1924; Cr 1923 - 27
- 1920+ City Engineer, Melbourne; Dec 1933 resigned from IEA

MYERS, Walter Harold (1881 - 1965)

[E 23; W H Myers per J P T]

- F, EA of A, 25.11.19; M, 1920; Sydney; Cr 1922 - 23
- BE (Syd 1901); PNR Medal (1946)
- 1903 Noyes Bros; 1904+ Elec. Eng, Dept of Rlys NSW, from 1924 Chief Elec. Eng.
- WWA - 1947.632; A - 140+

NEALE, Ruby (Ethel?)

[D 47; Ruby E(?) Neale]

- (Ruby Neale is somewhat of a mystery. She is referred to in the report in the IEA Bulletin of October 1926 simply as "Mrs Neale, Sydney". No contemporary IEA records help in identifying her. On 17.08.27 Charles Oswald Neale - DOB 7.10.08 - joined as a student with Turramurra as an address. In the electoral rolls for 1922, 1926 and 1928 Ruby Ethel Neale and Oswald Alfred Neale are recorded as living in Turramurra, but there is no record of Charles Oswald Neale. The association is tenuous!)

NELSON, William Muir (1871 - 1926)

[E 13; W M Nelson per J P T]

- F, EA of A, 28.11.19; M, 1920; Brisbane, Cttee 1920 - 26, Treas 1920 - 24; Cr 1920, 1925 - 26; Rep QIE on Founding Council of IEA on 20.10.19
- MIEE, AMICE
- 1903 - 08 Brisbane Tramway Co; 1909 - 11 Launceston Tramways; 1912 - 23 Brisbane Tramway Co
- BR - 2.136; T - 1927.681; W - 52

NEWBIGIN, William Johnstone (1874 - 1927)

[D 22, D 32; W J Newbigin]

- F, EA of A, 5.12.19; M, 1920; Melbourne, Cttee 1920 - 22; Cr 1920 - 27; Pres 1927; Rep TIE on Founding Council of IEA on 20.10.19
- 1901 - 03 Resident Eng for CA Parsons with Vic Rlys; 1905 - 22 Chief Eng, Wm Adams & Co, Melbourne; 1922 - 23 MD Wm Adams, Sydney
- ADB - 11.6; T - 1927.491

NEWBIGIN, Rita

[D 35; Rita Newbigin]

Wife of W J Newbigin

NEWTON, Henry Clement (1874 - 1962)

[E 22; H Clement Newton per J P T]

- F, EA of A, 15.12.19; M, 1920; Melbourne, Cttee 1920 - 22, Sec 1920; Cr 1920 - 22
- 1920+ British Insulated Cables

NOYES, Edward (1859 - 1920)

[G 24; Late Edward Noyes]

- F, EA of A, 16.12.19; M, 1920; Sydney
- Electrical Eng; with brother, Henry Obed Noyes, founded Noyes Bros, Sydney in 1888
- BR - 2.146; SMH 8.03.20, p 6

PARR, John (1873 -.....)

[F 10; J Parr per J P T]

- F, WAIE, 12.12.19; M, 1925; Perth, Cttee 1922 - 27; Cr 1925 - 26
- BSc, AMICE
- 1920+ Engineer for Water Supply PWD Perth;

PAYNE, Henry (1871 - 1945)

[G 13; H Payne per E S M]

- F, MUES, 5.12.19; M, 1920; Melbourne, Cttee 1920, 1928 - 29, 1933, Chmn 1928; Cr 1920, 1929; Rep MUES on Founding Council of IEA on 20.10.19
- MICE, MIME
- 1910 - 32 Prof Engg, Univ Melb
- ADB - 11.169; J - 1934.355

POOLE, William (1868 - 1929)

[D 30; Wm Poole]

- F, AIMinE, 17.12.19; M, 1920; Sydney, Cttee 1920 - 25, Chmn 1923; Cr 1924 - 25
- ME (Syd), MICE, MIMM
- 1891 - 97 NSW Water Conservation & Irrigation Dept; 1900 - 04 BHP; 1904 - 12 Charters Towers School of Mines; 1912 - 14 Ballarat School of Mines; 1914 - 29 Julius, Poole & Gibson
- BR - 2.184; J - 1929.343

POOLE, Jean

[D 10; J Poole]

Wife of W Poole

POTTS, William Elmhirst (1891 - 1970)

[D 41; W E Potts]

- F, ILGE, 15.08.20; M, 1930; Sydney; Canberra, Cttee 1927 - 30, Chmn 1928; Tasmania, Cttee 1932 - 33, Chmn 1933; Cr 1930
- MBE (1927), MC, BE, AMICE
- 1920 - 23 Shire Eng, Rylstone; 1924 - 25 Shire Eng, Canterbury; 1926 - 30 Ass Chief Eng, FCC, Canberra; 1931 - 42 City Eng, Launceston; 1943 - 46 City Eng, Hobart; 1947 - 60 Cwth Dept of Works, Canberra, then Melbourne

PULVER, Worters Readett (1866 - 1947)

[D 20; W R Pulver per J P T]

- F, NEINSW, 1.01.20; M, 1920; Newcastle, Cttee 1920 - 28, Chmn 1926; Cr 1920, 1924 - 27; Rep NEINSW on Founding Council of IEA on 20.10.19
- Surveyor with Australasian Agricultural Co
- J - 1947.117; Surveying the Hunter, ed J Fryer, Inst of Surveyors 1980 p 224; A - 177+

REYNOLDS, Walter Ross (1867 - 1946)

[F 14; W Ross Reynolds per J P T]

(Sometimes written Ross-Reynolds)

- F, TIE, 29.01.20; M, 1920; Tasmania, Cttee 1920 - 31, Chmn 1921; Cr 1921, 1926 - 28
- MICE
- 1890 - 1937 Chief Eng PWD, Tasmania
- Hobart Mercury 11.01.46

RUSSELL, Sir Peter (Nicol) (1816 - 1905)

[G 22; Late Sir Peter Nicol Russell]

- A founder in 1855 of P N Russell & Co, Sydney. Benefactor of Engineering School, University of Sydney. The PNR Medal of IEA is provided for out of funds given by EANSW, which was the beneficiary of a bequest from the Russell estate.
- ADB - 6.76; Corbett - 9; Jnl RAHS V 50, No 2, 1964.129

SEXTON, Richard Ernest (1861 - 1930)

[E 15; R E Sexton per J P T]

- M, 1920; Brisbane, Cttee 1922 - 28, Chmn 1925; Cr 1921 - 22
- MICE; PNR Medal (1925)
- 1879 - 1930 Brisbane Rlys
- J - 1933.33

SHINE, John Francis (..... - 1937)

[G 27; J F Shine per E S M]

- F, ILGE, 7.01.20; AM, 1920; Newcastle, Cttee 1920 - 21; Cr 1921
- 1920 - 37, Local Government Engineer in Hunter Valley

SINCLAIR, Russell (1862 - 1930)

[D 19; Russell Sinclair per J P T]

- F, EANSW, 1.12.19; M, 1920; Sydney; Cr 1921 - 26
- OBE; MIME, MINA
- Marine Engineer; a principal of J Wildridge & Sinclair Ltd, Sydney - Engineers and Machinery Merchants
- BR - 2.261; J - 1931.444

SMITH, Bernhard Alexander (1863 - 1936)

[D 18; B A Smith per W J N]

- F, MUES, 5.12.19; M, 1920; Melbourne, Cttee 1920 - 26, Chmn 1925; Cr 1920 - 29, Pres 1928; Rep MUES on Founding Council of IEA on 20.10.19
- MCE (Melb)
- 1888 - 1903 Lecturer, Univ Melb; Consultant on hydraulics, bridges, dams
- BR - 2.266; J - 1936.168

STRICKLAND, Tom Percival (1875 - 1955)

[E 21; T P Strickland per J P T]

- F SUES, 25.11.19; M, 1920; Sydney, Cttee 1920 - 22, 1926, 1929, 1933; Cr 1922, 1927 - 32
- BE (Syd), M Sc (Mc Gill), MIEE
- 1902 - 21 NSW Rlys; 1927 - 38 Melb Metrop Tramways
- J - 1955.70; WWA - 1950.682

THOMAS, Henry Jenkin (1878 - 1969)

[G 28; H J Thomas per E S M]

- F, NEI NSW, 12.04.21; M, 1921; Newcastle, Cttee 1921 - 24, 1920 - 32; Cr 1923, 1931 - 33
- 1920+ Mining Engineer in Hunter Valley
- Newcastle Morning Herald 30.12.69

TIVEY, Sir John (Proctor) (1882 - 1968)

[D 31; J P Tivey]

- F, SUES, 6.01.20; M, 1921; Sydney, Cttee 1920 - 28, Chmn 1926; Cr 1920 - 43, Treas 1920 - 24, Pres 1941
- KB (1955); PNR Medal (1956),
- 1916+ AGE Co Ltd, Sydney
- J - 1968.N119

TIVEY, Lorna V

[D 34; Lorna V Tivey]

Wife of J P Tivey

TOMLINSON, Alfred (1884 - 1925)

[E 27; Late A Tomlinson per J P T]

- F, WAIE, 22.12.19; M, 1922; Perth, Cttee 1920 - 25, Sec 1920 - 22, Chmn 1923; Cr 1924 - 25
- M Sc, AMICE
- 1911 WA Govt Rlys; 1914 - 25 Assoc Prof Mining & Eng, Univ WA
- BR - 2.305; T - 1925.379

TRENCHARD, Henry Gottreux (..... - 1945)

[D 42; H G Trenchard]

- F, NEI NSW, 7.01.20; AM, 1920; Newcastle, Cttee 1920 - 36, Treas 1920 - 31, Chmn 1934
- AMICE
- Mining Engineer in Hunter Valley
- A - 182

VICARS, James (1865 - 1944)

[G 25; J Vicars per E S M]

- F, EANSW, 11.11.19; M, 1920; Sydney, Cttee 1921 - 22; Cr 1920; Rep EANSW on Founding Council of IEA on 20.10.19
- BE (Syd 1888), ME (Syd 1892), MICE
- 1891 NSW PWD; Director, Australian Gaslight Co Ltd
- WWA - 1944.311

VOUT, Maude (?)

[D 12; M Vout]

- (M Vout is a mystery. She is referred to in the report in the IEA Bulletin of October 1926 as "Mrs Vout, Sydney". No contemporary IEA records help in identifying her. In 1902 Robert James Boyd (qv), when employed in Sydney by NSW Railways, married Katherine Vout of Summer Hill; in 1926 they lived in Lane Cove. Also living in Lane Cove in 1926, at a different address, was Maude Vout, a nurse. Boyd, in 1926 employed on the design of the Sydney Metropolitan railway system, was one of the Sydney Division representatives on the National Council, and a member of the IEA group that visited Canberra. Perhaps Boyd was accompanied by his sister-in-law? The association is tenuous!)

WALLACE, William Dunn (1873 - 1954)

[G 14; W D Wallace per E S M]

- F, NEINSW, 2.7.20; M, 1920; Newcastle, Cttee 1920 - 39, Chmn 1921, 1929; Cr 1929 - 30
- MIME
- 1920+ Engineer, Caledonian Collieries, Newcastle

WARREN, William Henry (1852 - 1926)

[D 36; The late Professor Warren per R J B]

- F, SUES, 11.11.19; M, 1920; Sydney; Cr 1920 - 22, Pres 1920
- LLD; Wh Sc; MICE, M Am SCE; PNR Medal 1923
- Founding Prof Engg, Univ Syd, 1884; Founding Pres IE Aust, 1920
- ADB - 6.356; T - 1926.685

WHITFELD, Hubert Edwin (1875 - 1939)

[E 28; H E Whitfeld per J P T]

- F, WAIE, 10.01.20; M, 1920; Perth, Cttee 1920 - 27, Chmn 1921; Cr 1921 - 23
- CBE (1933); BA (1897); BE (Civil 1902); BE (MM); MIMM
- Prof Engg, Univ WA
- ADB - 12.475; J - 1940.333

WICKHAM, Cecil Harry (1874 - 1932)

[G 8; C H Wickham per J P T]

- F, SAIE, 9.12.19; M, 1920; Adelaide, Cttee 1920 - 22, Chmn 1921; Melbourne, Cttee 1923 - 32; Cr 1920 - 22
- AMIEE, AM Am IEE
- 1903 - 09, NSW Tramways; 1910 - 22, Municipal Tramways Trust, Adelaide; 1922 - 32, Melbourne Tramways Board
- BR - 2.342; J - 1934.63

TABLE 1

SCHEDULE OF TREE SPECIES AND ASSOCIATED NAMES
(as shown in Fig. 1)

Section D

No.	Name	Planted by
10	Eucalyptus Macarthuri	J Poole
11	Grevillea robusta	Agnes Curtis
12	Eucalyptus Macarthuri	M Vout
13	Callitris Calcarata	G A Julius
14	Eucalyptus Macarthuri	F P Kneeshaw
15	Grevillea robusta	W Humble
16	Eucalyptus Macarthuri	H W Flashman
17	Grevillea robusta	Vernon Doust
18	Eucalyptus Macarthuri	B A Smith per W J N
19	Callitris Calcarata	Russell Sinclair p J P T
20	Eucalyptus Macarthuri	W R Pulver p J P T
21	Grevillea robusta	D N Morison p. J P T
22	Eucalyptus Macarthuri	W J Newbigin
23	Sterculia Diversifolia	Prof Chapman per M C Coates
24	" "	R W H Hawken per W P
25	" "	J D Millen per H A C
26	" "	G A Julius
27	" "	C E Crocker per G A J
28	" "	E S MacLean
29	" "	A Maughan
30	" "	Wm Poole
31	" "	J P Tivey
32	" "	W J Newbigin
33	" "	Lucy W Flashman
34	" "	Lorna V Tivey
35	" "	Rita Newbigin
36	Eucalyptus Macarthuri	The late Professor Warren per R J B
37	Callitris Calcarata	D F J Harricks per F P K
38	Eucalyptus Macarthuri	E W Marriott per J P T
39	Grevillea robusta	H G Carter per A M
40	Eucalyptus Macarthuri	J H Butters
41	Callitris Calcarata	W E Potts
42	Eucalyptus Macarthuri	H G Trenchard
43	Callitris Calcarata	Robt J Boyd
44	Eucalyptus Macarthuri	M C Coates
45	Grevillea robusta	Harry A Curtis
46	Eucalyptus Macarthuri	Brenda Maughan
47	Callitris Calcarata	Ruby E Neale
48	Eucalyptus Macarthuri	Eva Julius

TABLE 1

SCHEDULE OF TREE SPECIES AND ASSOCIATED NAMES
(as shown in Fig. 1)

Section D

No.	Name	Planted by
10	Eucalyptus Macarthuri	J Poole
11	Grevillea robusta	Agnes Curtis
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13	Callitris Calcarata	G A Julius
14	Eucalyptus Macarthuri	F P Kneeshaw
15	Grevillea robusta	W Humble
16	Eucalyptus Macarthuri	H W Flashman
17	Grevillea robusta	Vernon Doust
18	Eucalyptus Macarthuri	B A Smith per W J N
19	Callitris Calcarata	Russell Sinclair p J P T
20	Eucalyptus Macarthuri	W R Pulver p J P T
21	Grevillea robusta	D N Morison p. J P T
22	Eucalyptus Macarthuri	W J Newbigin
23	Sterculia Diversifolia	Prof Chapman per M C Coates
24	" "	R W H Hawken per W P
25	" "	J D Millen per H A C
26	" "	G A Julius
27	" "	C E Crocker per G A J
28	" "	E S MacLean
29	" "	A Maughan
30	" "	Wm Poole
31	" "	J P Tivey
32	" "	W J Newbigin
33	" "	Lucy W Flashman
34	" "	Lorna V Tivey
35	" "	Rita Newbigin
36	Eucalyptus Macarthuri	The late Professor Warren per R J B
37	Callitris Calcarata	D F J Harricks per F P K
38	Eucalyptus Macarthuri	E W Marriott per J P T
39	Grevillea robusta	H G Carter per A M
40	Eucalyptus Macarthuri	J H Butters
41	Callitris Calcarata	W E Potts
42	Eucalyptus Macarthuri	H G Trenchard
43	Callitris Calcarata	Robt J Boyd
44	Eucalyptus Macarthuri	M C Coates
45	Grevillea robusta	Harry A Curtis
46	Eucalyptus Macarthuri	Brenda Maughan
47	Callitris Calcarata	Ruby E Neale
48	Eucalyptus Macarthuri	Eva Julius

Section E

No.	Name	Planted by
* 8	Cedrus Atlantica	S H E Barraclough p.J P T
9	Juniperus Chinensis	H H Dare p.J P T
10	Cedrus Atlantica	J J C Bradfield p.J P T
11	Libocedrus decurrens	The late H E Coane " "
* 12	Cedrus Atlantica	R Lawson " "
13	Juniperus Chinensis	W M Nelson " "
* 14	Cedrus Atlantica	J S Just " "
15	Grevillea robusta	R E Sexton " "
* 16	" "	J R Kemp " "
* 17	" "	E F Gilchrist " "
18	" "	A C Mackenzie " "
* 19	" "	M E Kernot p. J P T
20	" "	H E Morton " "
21	" "	T P Strickland " "
* 22	Cedrus Atlantica	H Clement Newton " "
* 23	Libocedrus decurrens	W H Myers " "
* 24	Cedrus Atlantica	H G Jenkinson " "
25	Juniperus Chinensis	J Bowman " "
* 26	Cedrus Atlantica	J H V Eaton " "
27	Libocedrus decurrens	Late A Tomlinson " "
* 28	Cedrus Atlantica	H E Whitfeld " "

Section F

No.	Name	Planted by
10	Cupressus Sempervirens Fastigata	J Parr p. J P T
11	Juniperus Chinensis	J Andrew " "
12	Cupressus Sempervirens Fastigata	J R Gardam " "
13	Juniperus Chinensis	C C Halkyard " "
14	Cupressus Sempervirens Fastigata	W Ross Reynolds " "
* 15	Quercus Palustris	C B Davies " "
* 16	" "	late J S Louttit " "
* 17	" "	J B Henson " "
* 18	" "	Late C W King " "
* 19	" "	W J Doak " "
20	Cupressus Sempervirens Fastigata	late F W Lawson " "
21	Juniperus Chinensis	Alex J Gibson " "
21	Cupressus Sempervirens Fastigata	A L Hargrave p J P T
23	Juniperus Chinensis	G G Jobbins " "
24	Cupressus Sempervirens Fastigata	H R Harper " "

Section G

No.	Name	Planted by
* 8	Cedrus Atlantica	C H Wickham per. J P T
9	Juniperus Chinensis	O W Brain " "
* 10	Cedrus Atlantica	W Lamrock " "
* 11	Libocedrus decurrens	T H Kirkpatrick " "
* 12	Cedrus Atlantica	late T H Houghton " "
13	Juniperus Chinensis	H Payne per E S M
14	Cedrus Atlantica	W D Wallace per E S M
15	Grevillea robusta	Brisbane Division
* 16	" "	Newcastle " H G T
17	" "	Sydney " per. J P T
* 18	" "	Melbourne " per M C C
* 19	" "	Tasmania " HAC
20	" "	Adelaide " per E S M
* 21	" "	Perth " per E S M
* 22	Cedrus Atlantica	late Sir Peter Nicol Russell
* 23	Libocedrus decurrens	late J R Bainton
* 24	Cedrus Atlantica	late Edward Noyes
25	Juniperus Chinensis	J Vicars per E S M
* 26	Cedrus Atlantica	T E Burrows " "
27	Libocedrus decurrens	J F Shine " "
* 28	Cedrus Atlantica	H J Thomas " "

* These trees are plausibly those planted in 1926 - the right species of the right order of age in the right place.

TABLE 2

TREE ASSESSMENT SECTION E—JUNE 1995

No	Species	Height m	Diam. cm	Crown spread m	Condition
8	Missing				
9	Missing				
10	<i>Cedrus atlantica</i>	4	5	1.5	Replacement tree
11	Missing				
12	<i>Cedrus atlantica</i>	11	59	10	Fair, butt scar
13	Missing				
14	<i>Cedrus atlantica</i>	13	56	14	Healthy
15	Missing				
16	<i>Grevillea robusta</i>	11	53	7	Fair
17	<i>Grevillea robusta</i>	11	50	9	Good
18	<i>Grevillea robusta</i>	25 cm			Very poor replacement
19	<i>Grevillea robusta</i>	14	63	11	Stag-headed, fair
20	Missing				
21	Missing				
22	<i>Cedrus atlantica</i>	12	54	11	Fair
23	<i>Calocedrus decurrens</i>	13	48	3	Good
24	<i>Cedrus atlantica</i>	10	54	12	Butt damage, fair
25	Missing				
26	<i>Cedrus atlantica</i>	12	100	16	Multi-stemmed, low to the ground
27	Missing				
28	<i>Cedrus atlantica</i>	11	53	13	Pruned high

TABLE 3

TREE ASSESSMENT SECTION F—JUNE 1995

No	Species	Height t m	Diam. cm	Crown spread m	Condition
15	<i>Quercus palustris</i>	12	58	12	Healthy
16	<i>Quercus palustris</i>	14	63	12	Healthy
17	<i>Quercus palustris</i>	17	70	12	Healthy
18	<i>Quercus palustris</i>	15	63	12	Healthy
19	<i>Quercus palustris</i>	15	69	12	Healthy

TABLE 4
TREE ASSESSMENT SECTION G—JUNE 1995

No	Species	Height m	Diam. cm	Crown spread m	Condition
8	<i>Cedrus atlantica</i>	9	45	6	Dying
9	Missing				
10	<i>Cedrus atlantica</i>	11	68	15	Healthy, multileaders
11	<i>Calocedrus decurrens</i>	15	63	5	Healthy
12	<i>Cedrus atlantica</i>	13	100	13	Healthy, multi- stemmed
13	Missing				
14	Missing				
15	<i>Grevillea robusta</i>	0.2			Very poor replacement
16	<i>Grevillea robusta</i>	8	58	10	Fair, stag headed
17	<i>Grevillea robusta</i>	0.8			Very poor replacement
18	<i>Grevillea robusta</i>	8	33	12	Fair, stag headed
19	<i>Grevillea robusta</i>	13	35	8	Healthy
20	Missing				
21	<i>Grevillea robusta</i>	12	75	13	Very healthy
22	<i>Cedrus atlantica</i>	11	50	10	Healthy, flat topped
23	<i>Calocedrus decurrens</i>	13	53	6	Healthy
24	<i>Cedrus atlantica</i>	11	61	11	Multistemmed
25	Missing				
26	<i>Cedrus atlantica</i>	11	70	16	Multi-stemmed, low to the ground
27	Missing				
28	<i>Cedrus atlantica</i>	13	70	17	Healthy, multistemmed, lower branches pruned to aid traffic visibility

TREES PLANTED BY
Members of

THE INSTITUTION OF ENGINEERS
—AUSTRALIA—

Monday, 2nd August 1926.

Scale 400 Feet to an Inch —

—Diagram shewing Sections D.F.F.G.—

— Scale 100 Feet to an Inch —

SECTION 2:

[illegible]

SECTION "F"

[illegible]

SECTION 1

No.	Name	Locality	SEX		No.	Name	Locality	SEX	
			M	F				M	F
1	Colonia Llanito	15 M. E. Bannalagud p. 325			1	Gracilaria robusta	W. S. M. V. p. 323		
2	Jerupenne Chinnasa	M. E. Dura p. 323			2	"	"		
3	Cetunau Llanito	15 M. E. P. C. P. p. 323			3	Gracilaria fluitans	H. S. M. V. p. 323		
4	Uloosaru of Dura	15 M. E. P. C. P. p. 323			4	Boerhaavia douglasii	W. S. M. V. p. 323		
5	Cetunau Llanito	15 M. E. P. C. P. p. 323			5	Gracilaria robusta	W. S. M. V. p. 323		
6	Gracilaria robusta	15 M. E. P. C. P. p. 323			6	Gracilaria robusta	W. S. M. V. p. 323		
7	Gracilaria robusta	15 M. E. P. C. P. p. 323			7	Gracilaria robusta	W. S. M. V. p. 323		
8	Gracilaria robusta	15 M. E. P. C. P. p. 323			8	Gracilaria robusta	W. S. M. V. p. 323		
9	Gracilaria robusta	15 M. E. P. C. P. p. 323			9	Gracilaria robusta	W. S. M. V. p. 323		
10	Gracilaria robusta	15 M. E. P. C. P. p. 323			10	Gracilaria robusta	W. S. M. V. p. 323		

SECTION 5

[illegible]

5. CONCLUSIONS

No	Name	Planted by
1	<i>Eucypora Macbridei</i>	P. Biele.
2	<i>Gracilaria robusta</i>	C. Jones & L. Smith
3	<i>Ectocarpus Macbridei</i>	P. Ford.
4	<i>Callitriche Gleasonii</i>	G. S. Schmitt
5	<i>Callitriche Gleasonii</i>	W. J. R. Smith
6	<i>Gracilaria robusta</i>	W. J. R. Smith
7	<i>Ectocarpus Macbridei</i>	W. J. R. Smith
8	<i>Gracilaria robusta</i>	W. J. R. Smith
9	<i>Callitriche Gleasonii</i>	W. J. R. Smith
10	<i>Callitriche Gleasonii</i>	W. J. R. Smith
11	<i>Gracilaria robusta</i>	W. J. R. Smith
12	<i>Gracilaria robusta</i>	W. J. R. Smith
13	<i>Gracilaria robusta</i>	W. J. R. Smith
14	<i>Gracilaria robusta</i>	W. J. R. Smith
15	<i>Gracilaria robusta</i>	W. J. R. Smith
16	<i>Gracilaria robusta</i>	W. J. R. Smith
17	<i>Gracilaria robusta</i>	W. J. R. Smith
18	<i>Gracilaria robusta</i>	W. J. R. Smith
19	<i>Gracilaria robusta</i>	W. J. R. Smith
20	<i>Gracilaria robusta</i>	W. J. R. Smith
21	<i>Gracilaria robusta</i>	W. J. R. Smith
22	<i>Gracilaria robusta</i>	W. J. R. Smith
23	<i>Gracilaria robusta</i>	W. J. R. Smith
24	<i>Gracilaria robusta</i>	W. J. R. Smith
25	<i>Gracilaria robusta</i>	W. J. R. Smith
26	<i>Gracilaria robusta</i>	W. J. R. Smith
27	<i>Gracilaria robusta</i>	W. J. R. Smith
28	<i>Gracilaria robusta</i>	W. J. R. Smith
29	<i>Gracilaria robusta</i>	W. J. R. Smith
30	<i>Gracilaria robusta</i>	W. J. R. Smith
31	<i>Gracilaria robusta</i>	W. J. R. Smith
32	<i>Gracilaria robusta</i>	W. J. R. Smith
33	<i>Gracilaria robusta</i>	W. J. R. Smith
34	<i>Gracilaria robusta</i>	W. J. R. Smith
35	<i>Gracilaria robusta</i>	W. J. R. Smith
36	<i>Gracilaria robusta</i>	W. J. R. Smith
37	<i>Gracilaria robusta</i>	W. J. R. Smith
38	<i>Gracilaria robusta</i>	W. J. R. Smith
39	<i>Gracilaria robusta</i>	W. J. R. Smith
40	<i>Gracilaria robusta</i>	W. J. R. Smith

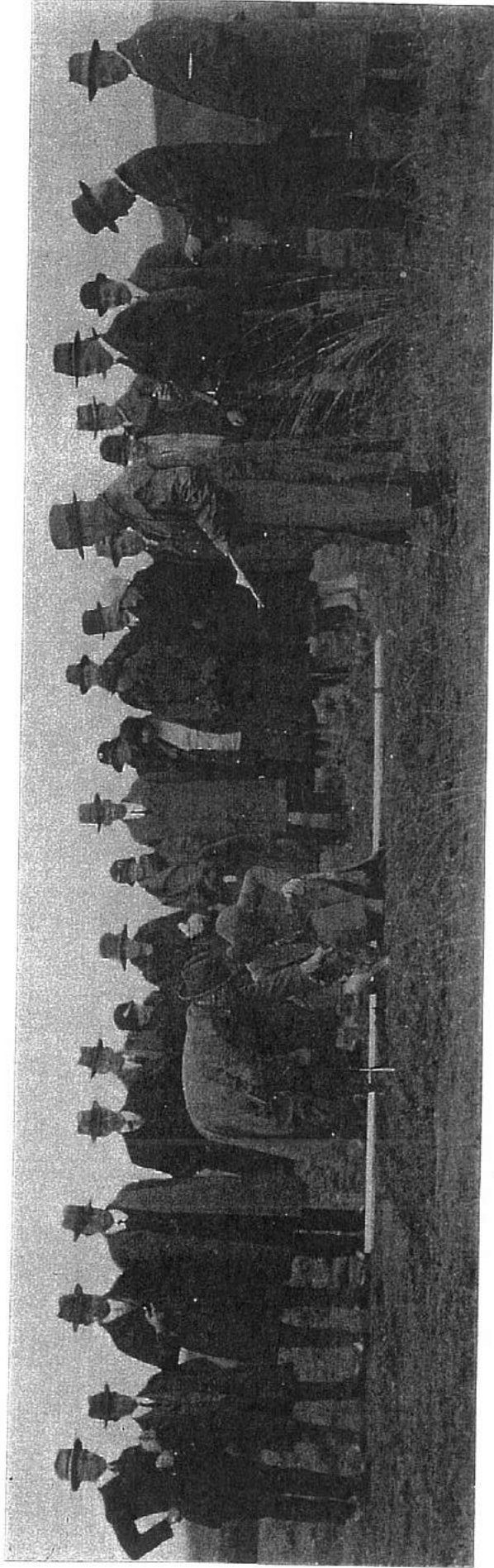


Fig. 2 Mrs G.A. Julius plants the first tree. L to R: W.E. Potts, H. Marshall, F.P. Kneeshaw, W. Poole, G.A. Julius, I.V. Doust, Mrs R. Neale, Mrs W. Poole, Mrs M. Vout, H.G. Trenchard, Mrs H.A. Curtis, Mrs H.W. Flashman, Mrs J.P. Tivey, P.J. Tivey, H.W. Flashman, Mrs A. Maughan, H.A. Curtis, Mrs W.J. Newbigin, A. Maughan, E.S. Maclean, M.C. Coates, R.J. Boyd, W. Humble; in front — A.E. Bruce, Mrs Julius, T.C.G. Weston. (Mildenhall No. 2214)



Fig. 3 F.P. Kneeshaw (?) plants a tree. L to R: H.G. Trenchard, A. Maughan, W.J. Newbigin, Mrs W.J. Newbigin, I.V. Doust, H.W. Flashman, H.A. Curtis, A.E. Bruce; in front — F.P. Kneeshaw (?), H.W. Humble. (Mildenhall No. 2210)



Section D None of the original trees has survived. Section has been replanted with different species.



Section F Pin oak, *Quercus palustris*, tree numbers 15 - 19



Section E looking west. Atlas cedar, *Cedrus atlantica*, has been the most successful species



Section E Silky oak, *Grevillea robusta*, planted in the centre row, shows considerable variation in performance.

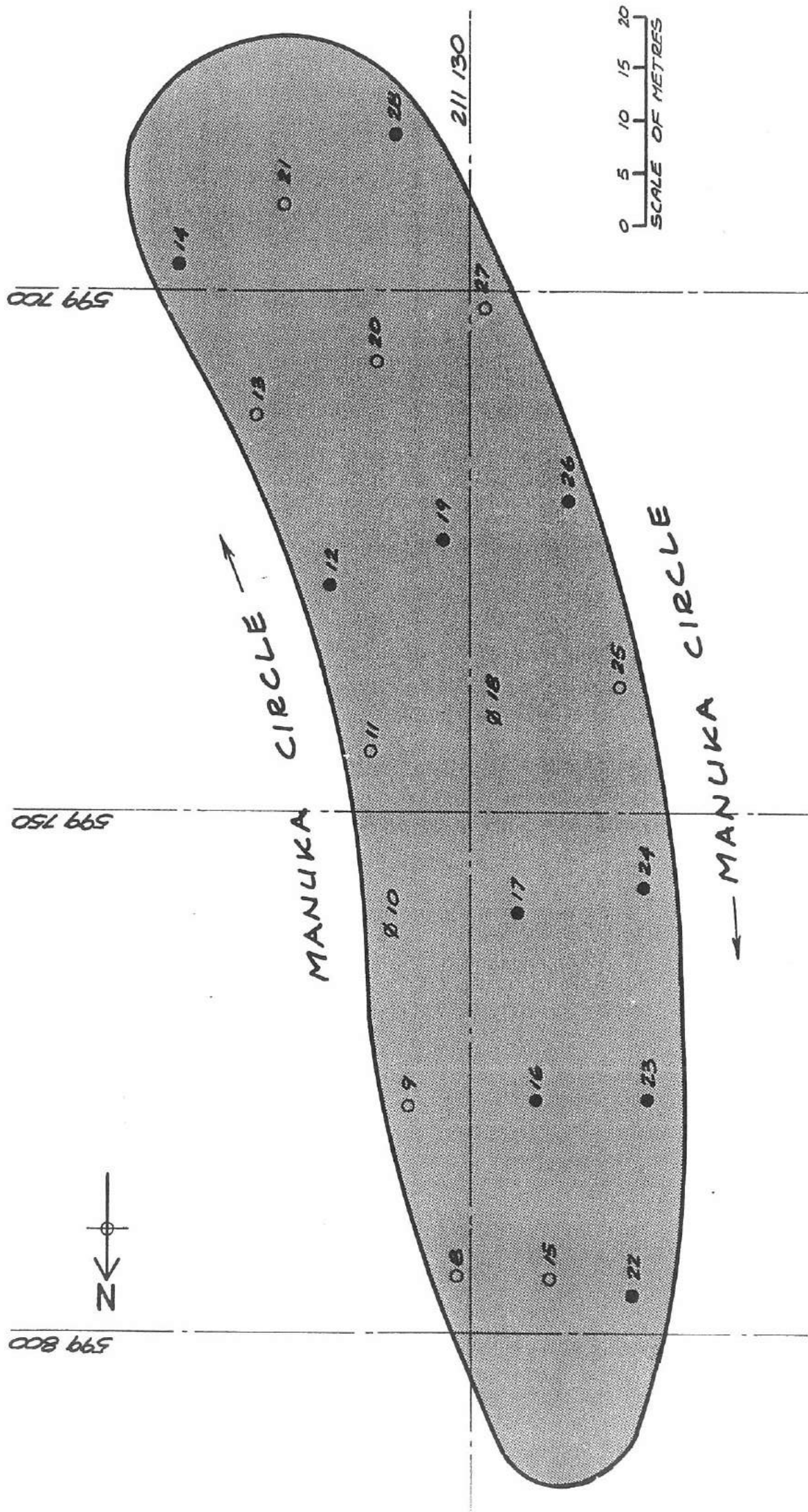
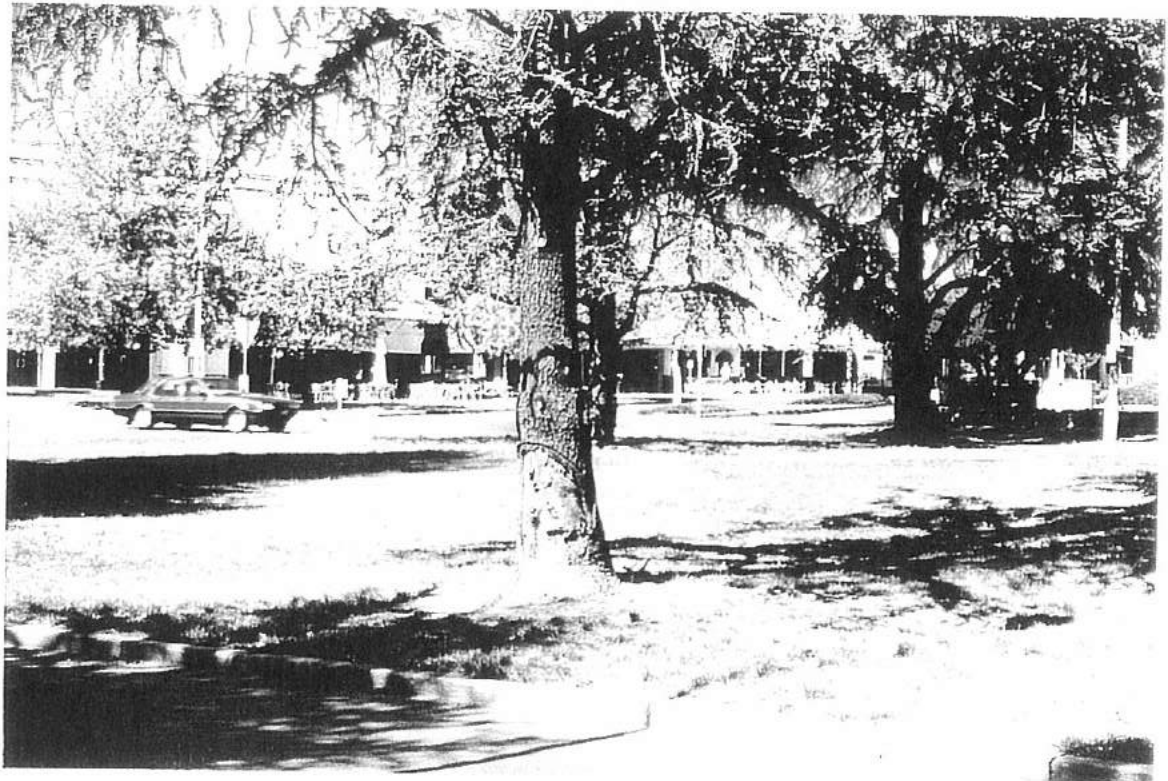


FIG. 6 INDICATIVE PLAN - SECTION E.

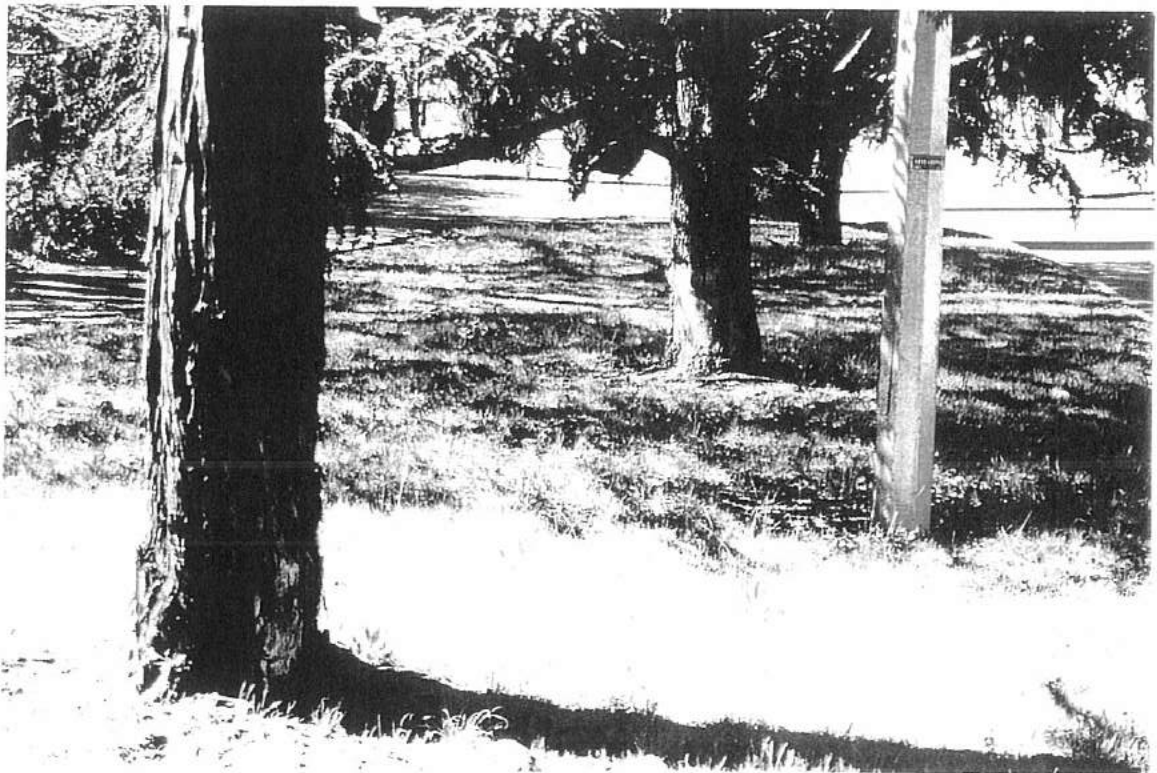
○ TREE MISSING.

● TREE EXTANT IN 1995.

∅ REPLACEMENT FOR ORIGINAL.



Severe bark damage after being struck by vehicle which left the road



Damage resulting from vehicles leaving the road and colliding with tree trunks

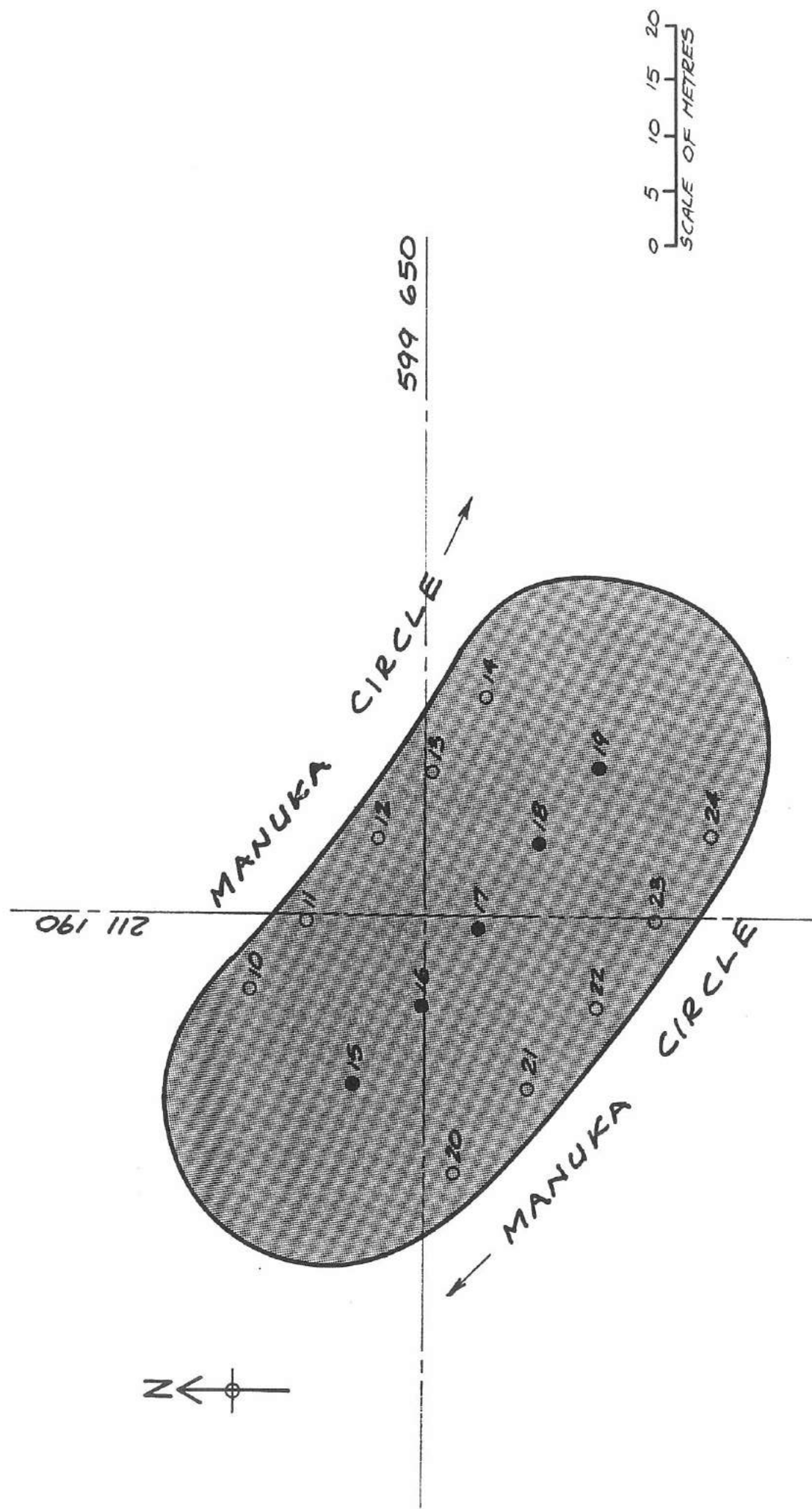


FIG. 11 INDICATIVE PLAN - SECTION F.

- TREE MISSING.
- TREE EXTANT IN 1995.

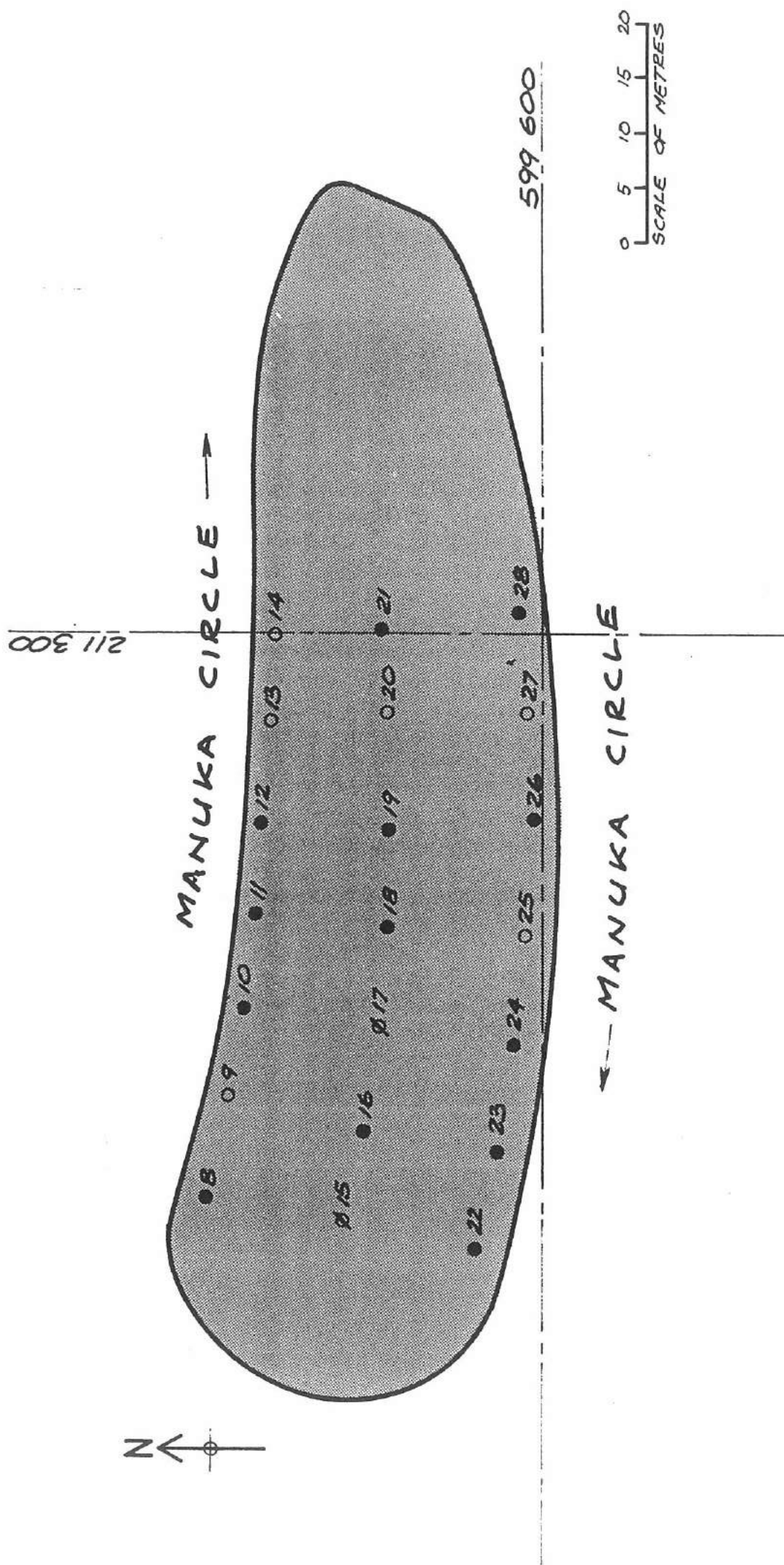


FIG. 12 INDICATIVE PLAN - SECTION G.

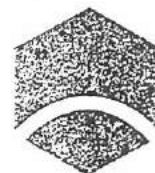
- TREE MISSING.
- TREE EXISTANT IN 1995.
- ∅ REPLACEMENT FOR ORIGINAL.



Section G Tree no 21, Silky oak, *Grevillea robusta*, centre, has grown extremely well and is one of the best examples of this species in Canberra.



Section G Variable performance. Atlas cedar, *Cedrus atlantica*, in centre and Silky oak, *Grevillea robusta*, to right of centre are both in decline



**The
Institution
of Engineers,
Australia**

CANBERRA DIVISION

22 July 1996

The Manager
ACT Heritage
Department of Business, the Arts, Sport & Tourism
PO Box 1119
TUGGERANONG ACT 2901

Dear Sir

I have pleasure in submitting the final report titled "The Trees of Manuka Circle" prepared with the assistance of a grant under the ACT Heritage Grants Program for 1995. The subject of the report is, the tree planting project undertaken in 1926 in Canberra Avenue, Manuka, by The Institution of Engineers, Australia. This project was part of presentation and memorial tree planting undertaken by several public bodies and associations, immediately before the transfer of the Commonwealth Parliament to the Provisional Parliament House.

The report has been prepared for the Canberra Division of The Institution of Engineers, Australia by Mr Tom Lawrence, a member of the Institution and Dr Robert Boden, in response to a joint brief.

In Submitting the report, we wish to mention several matters it deals with in detail.

In the plan of Fig. 1 there are shown, against the Institution plantings, 96 tree positions.

viz.	Section D	39
	Section E	21
	Section F	15
	Section G	21

and 9 tree species (using modern terminology)

viz.	Callitris endlishen	D		
	Cedrus atlantica	E	G	
	Cupressus sempervirens 'stricta'		F	
	Eucalyptus macarthuri	D		
	Grevillea robusta	D	E	G
	Juniperis chinensis	E	F	G
	Calocedrus decurrens	E	G	
	Quercus palustris	F		
	Biachychiton popuenus	D		

As described in the text, none of the 39 trees planted in Section D in 1926 remains, although all were Australian native species which have been planted with reasonable success elsewhere in Canberra. The reason for the absence of originals is unknown; it accounts for the absence of 3 of the original species.

No Cupressus remain in Section F, but since they were in the outer rows they might have been removed during street widening. No Juniperus remain; since other trees in the same outer rows remain in Section E & G (but not in Section F) a 'street widening' suggestion does not apply. This species has not grown well elsewhere in Canberra and is no longer planted.

Of the remaining 4 species, of which there are 28 trees in all, although some, in 1995 are only just surviving, one, the Grevillea robusta at G21, is probably the best specimen of the species in the ACT, and for that reason alone is worth preservation and use as a seed source.

Of the 96 trees shown in Fig. 1, 7 have attached to them the names of the Chairman of the Divisions of the Institution at that time; one name (Julius) appears twice, and there were 8 ladies (6 wives) present at the planting who gave their names to trees, so in all 80 names of engineers are involved. Of that 80, 10 were deceased in August 1926.

Of the 80 names, 20 appear in the Australian Dictionary of Biographics (ADB) (to Vol. 12) and 21 in the Biographical Register - which is an indication of their prominence by objective criteria. There are but 2 names associated in any significant way with the ACT (Butters, Potts).

Research by the authors of the Report show that, of the 28 trees that survive, 4 are associated with Divisions of the Institution; the 'specimen' Grevillea robusta mentioned above is associated with West Australia Division. Of the remaining 24 trees, 4 are associated with names appearing in the ADB (2 deceased in 1926), and 11 with names in the Biographical Register (4 deceased). Of the 24 names associated with surviving trees, only two are of Presidents of the Institution (Kemp and Jenkinson).

From this analysis it seems that the surviving 28 trees may not, in their entirety, be appropriate for entry on the ACT Heritage Register because

- a) they represent but 30% of the trees planted in 1926
- b) neither in species nor in associated names do they represent the more significant part of the planting, and
- c) none of the associated names is significant in ACT heritage

Furthermore because they are scattered among the survivors, it may be anomalous to single out and enter in the Register, the few individual trees that might justify consideration for such treatment - the 4 associated with names in the ADB (Bainton - G23, Kernot - E19, Russell - G22, Whitfeld - E28).

However, the question of possible entry in the ACT Heritage Register is not one in which the Canberra Division Heritage has a firm view.

We do recommend that the existing 28 surviving trees and their background, as recorded in the Report, be recorded by the ACT Heritage Unit and if practicable the same action be appropriate in respect to such other trees in Canberra Avenue as can be identified as having been planted in 1926 under the sponsorship of the organisations listed in 'Butters' 1927 Annual Report.

As well as the recommendation above as to recording by the ACT Heritage unit, it is also our view that some permanent record of the Institution of Engineers planting would be appropriate within the site itself.

We are therefore exploring whether it will be practicable to place a suitably inscribed bronze marker or similar permanent record on the site - subject of course to the Department's requirements and policy.

Yours sincerely



Bob Harvey
Chairman
Canberra Division Heritage Panel